ESTABLISHED 1819.

THE AMERICAN FARMER

RURAL REGISTER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

NEW SERIES.] JANUARY, 1873. [VOL. II—No. 1.

PUBLISHED BY

SAML. SANDS & SON,

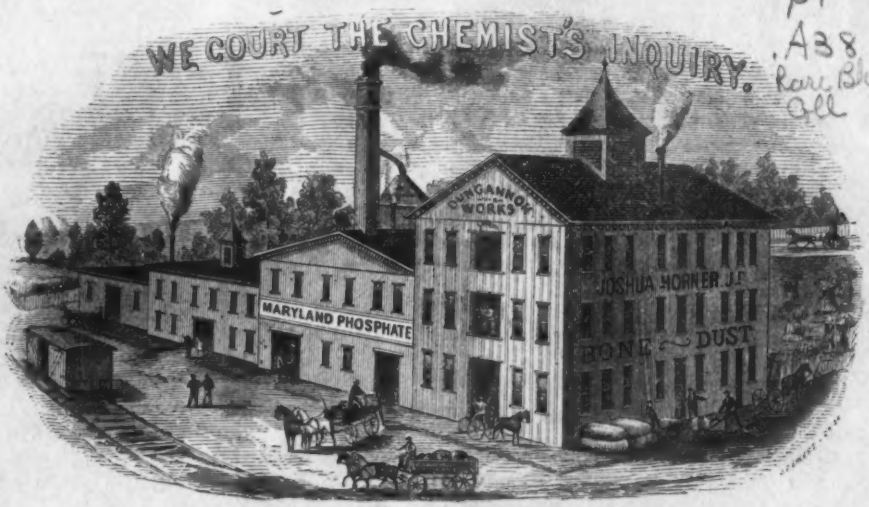
No. 9 North street, Baltimore, Md.

TABLE OF CONTENTS:

Printed by JAMES YOUNG, 114 West Baltimore street.

SUBSCRIPTION $1.50 A YEAR IN ADVANCE.

[ESTABLISHED 1848.]



HORNER'S

MARYLAND SUPER-PHOSPHATE

Of which 45.628 per cent. is Bone Phosphate.			Equiv. to 10 150 per cent.	Sulphate	Ammonia.
" " 17. " "	Soluble.		" 6.821 " "	—	Potash.
" " 3 816 " "	Ammonia.		" 7.908 " "	"	Soda.

To the Farmers and Planters of Maryland and the South generally.

Horner's Maryland SUPER-PHOSPHATE.

(We court the Chemist's inquiry.)

After 23 years' experience in the Fertilizing business, and after establishing a wide reputation for the purity and excellence of his Bone Dust, the subscriber has been induced to prepare a Phosphate suitable to the requirements and every way worthy the attention of the Southern Farmer.

The "MARYLAND" is a rejuvenator and permanent improver of the soil. It stimulates equal to Peruvian Guano, and sustains equal to Bone, being composed almost entirely of these ingredients, with a very liberal percentage of Potash in the residuum. There is no adulterater nor inferior article used—every part of the Phosphate being of essential benefit to the land. Neither pains nor expense have been spared in its preparation, and we claim for it the greatest benefit to the farmer from the smallest outlay.

For Cotton, Wheat and Corn, and as a general stimulant and aliment for worn and impoverished land, there can be nothing superior. It is warranted to run as high in Ammonia, and higher in Bone Phosphate, than any other fertilizer in the market.

Price $50 per ton, in new bags. No charge for delivery.

ANALYSIS OF JOSHUA HORNER, Jr's. BONE DUST.

Moisture	7.52	Phosphoric Acid	29.16
Organic Matter	29.94	Bone Phosphate	59.63
Ammonia	2.483	Insoluble Residue	2.90
Lime	30.47		
		WM. P. TONRY, *Analytical Chemist.*	99.99

Bone Dust $45, Bone, Meal $50, Dissolved Bone $48,

Our own manufacture, in new bags; Eastern and Western Bone Dust, $35. Peruvian Guano delivered from Peruvian Government Warehouse at the lowest rates. No charge for delivery.

Manufacturer and General Commission Merchant. Office and Warehouse, 54 S. Gay street. General Warehouse, corner Chew and Stirling streets, also 178 Forrest street, BALTIMORE, MD.

sep-tf.

JOSHUA HORNER, Jr.

THE

AMERICAN FARMER

AND

RURAL REGISTER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. II.—No. 1.] JANUARY, 1873. [NEW SERIES.

THE NEW YEAR.

The advent of a new year should, to those who acknowledge the superintendence of Providence, be hailed as a remembrancer of the debt of gratitude which is due for the blessings, mercies and protection which have been vouchsafed to us during the time that is past, and induce us earnestly to bow ourselves in reverence to the Father of all mercies, beseeching Him to continue to us the light o. his countenance for time to come. From no other class of men is praise more comely than those the business of whose life is so visibly dependent upon that Power who has promised to send in their seasons the early and the latter rain. In the language of the Psalmist, "Thou crownest the year with thy goodness, and thy paths drop fatness—They drop upon the pastures of the wilderness—the pastures are clothed with flocks; the valleys also are covered over with corn; they shout for joy, they also sing."

Truly no nation or people has had more cause of thankfulness than ours for the blessings received and the dangers escaped during the year just brought to a close. Let our thank-offerings and praises therefore ascend to the Author and Giver of every good and perfect gift, and our fervent petitions be renewed for mercies to come. With but slight exceptions, never have we enjoyed more bountiful harvests of the fruits of the field, and seldom has there been a greater freedom from the calamities to which man is subjected, than what has fallen to our lot as a people in the cycle of time through which we have just passed.

Personally, we salute our patrons and friends with the compliments of the season, and most cordially wish that each and every one of them, and of those near and dear to them, may enjoy during the year now commenced every blessing that health, happiness and prosperity can confer—that we may all still live to enjoy the rational festivities of many a new year; and that our crops may be bounteous, and our toil repaid with remunerating prices.

The beginning of the year should be considered as a time peculiarly suitable for laying out our plans for the future, and as the keen blasts of old Boreas during the present month will probably give us more leisure from the out-of-door duties which most other months in the calendar bring, it is proper that we should avail of the opportunity to map off our plans for the year; and it is important also, when we have adopted them, that we shall rigidly adhere to the system that may thus be devised, as far as it is practicable so to do. Our crops should be determined upon consistently with our resources—for any attempt to expand our culture over many broad acres, with the force and manures only sufficient for one-half of the area, is an ambition which is sure to be baulked. The great questions with the farmer and planter now are, *labor* and *manure*, and all our plans must be squared by the resources at our command in these two all-important points. The man who has the head to devise the means how best to order his labor so that no time shall be lost, and every

duty performed at the proper hour and in the most suitable manner, will have made one most important step towards success. Another, not less necessary, is the securing of the means of fertilizing his soil, either by the *manures* of his own manufacture, upon which the greater number are obliged to depend, or, if he has the means necessary therefor, by the aid of commercial fertilizers; but no amount of the latter will answer for a permanent improvement of the land, if the former is neglected. Whatever manure is used, the barn yard and the compost heap must furnish the base for a successful improvement of the land. It is reduced to a certainty, that the same amount of manure applied to fifty acres of corn, or most other crops, the field being well ploughed, harrowed, and cultivated, will in most cases yield more produce, and bring a greater cash return than that labor and manure will do applied to one hundred acres.

The continued drain upon the soil, for crops which are carried off to market, in the form of grain, hay, milk, &c., must be repaired, or the result is inevitable that the yield will annually be diminished. We have sufficient evidence of this all around us, without turning our eyes to the West; but there, are beginning to be realized the same results which have been reached in the old States. The exportation of the breadstuffs, beef, pork, &c., to distant markets, whilst the manure made by their herds and the offal of their crops have been wasted by building their barns over streams, is now beginning to show the results of their folly in the reduction of the yields of their acres in those States still considered new ones, to a minimum amount not really in excess of most of those of our Southern Atlantic coast which are considered and generally denominated as "worn out." The far-off States stretching off towards the Pacific slope, in their virgin freshness produce heavy crops; but the cry is now coming up from them that by the time their produce reaches the Atlantic seaboard, where it is forced to seek a market, the price realized will not pay for the labor; for, hard pressed as we are at the South for hired help, the difficulty is equally as great at the West, where the price is much higher. To elucidate this a little farther, we give some facts from an Iowa correspondent of the Prairie, (Ill.) *Farmer* of last month, in which farmers out there are called upon to organize, "so as to be a match for speculators and monopolists; if they don't they will be crushed: Oats at 14 cents and corn at 18 cents per bushel is no living price for a farmer to sell his grains at." The freights to the Atlantic coast eat up all the profits, and the farmers are always in the power of monopolists, who have banking facilities for "moving the crops" which the producers cannot obtain; hence, as a general rule, the farmers in moderate circumstances have to rely on the prospective advance in the price of their lands for realizing their cherished hopes of wealth, whilst the poorer classes have frequently to go to the wall if they have purchased their farms on credit, as but few pay less interest when they are obliged to borrow money, than 20 to 25 per cent. Let those of small means who contemplate removing to the West, bear these facts in mind, and make their own calculations whether it will not be to their interest to take a Southerly direction.

Another fact, in connexion with those just alluded to, is stated in the Iowa Homestead, that "as fuel is scarce in all that portion of the State, (where a wood lot is a rarity on the prairies,) coal rating from 17 to 20 cents a bushel, it is good economy for the farmer to burn his surplus corn. To take a load of corn to a railroad market, scarcely sufficient is obtained for it to pay a moderate estimate on the time expended for his team and himself. A bushel of corn, it is estimated, will produce as much heat as a bushel of coal, consequently it is cheaper, by at least 25 per cent., all contingencies considered, to burn corn at its present price than to burn either coal or wood. In some of the counties north of us this course is practiced."

As the season progresses we will endeavor to keep our readers duly advised in regard to the various matters which will require their attention. More particularly will we point out to them the nature of the crops and the manures suitable for them. At the present time we will reiterate what we have so often urged, that on almost every estate there are to be found materials which can be composted and made to keep up the fertility of the soil. Everything, whether of an animal or vegetable origin that ever had life, is a suitable substance to be converted into manures, whether such products be of a solid or of a liquid nature; and the latter is far more valuable than the former, if properly economised, although it is too generally permitted to be lost.

Work for the Month—January.

Composting Materials.—Upon this subject, referring to our December number, we will add: Let a horse and cart be appropriated at this season to gather up all the woods mould and pine leaves, peat, marsh and road mud, and add to these materials as you throw them into heaps whatever ashes you have made, and a bushel of plaster for every twenty loads; also offal of every description from the house and kitchen, and hen houses, the soap suds and dish water; all these things, small as they may seem at first sight, yet contain elements of productiveness, and of great value in the melioration of the soil. In addition to these materials, the refuse salt from the packers, or salt of any kind, is invaluable as a fertilizer. Mr. Greeley, in his late address before the Maryland Agricultural Society, considered that the cost of ten bushels salt was the best $2.50 worth of plant food that that much money would buy him. Mr. Mechi, too, the great English farmer, uses one hundred or more pounds of salt to twice that quantity of guano to an acre, as one of his principal bought manures. Let these constituents of manure be put in a dish-like space, to prevent the loss of the liquids, and add a load of stable manure occasionally, to furnish ammonia as the heap grows, and a large amount of excellent manure for the spring crops will be made. Before it is hauled out, the heap should be shovelled over and well incorporated, so as to give a full proportion of all the different materials of superior value to every portion of it.

Winter Ploughing.—We will here only reiterate our advice, to avail of every favorable opportunity through the winter to break up such fields as you intend for spring crops—more especially is this desirable where they are of stiff, tenacious clays, which are greatly improved in their texture by being exposed to the winter's frosts. It is certain that the difference in the results between fields winter ploughed and those broken up just before being seeded, is decidedly in favor of the former. Care, however, must be observed that the operation does not take place when the ground is too *wet*. Neither should it be so dry as to break up in clods; a medium moist condition is the desired state.

Drains.—The surface drains of your wheat fields should be subject to an occasional examination, in order that if any obstructions to the free passage of the water are found, they may be promptly removed; and if you have any wet clayey, or other fields that require draining, neglect no opportunity during this season to ditch and drain them. Manures of any kind cannot have a proper effect upon lands that require draining. A cheap mode to make a covered drain, in the absence of stone, or the inability to buy tile, is, to take two pine poles, one to be laid on either side of the drain, and a third to be laid upon and between the two side ones, to keep the drain or conduit open; fill in along the sides of the lower poles and above the middle one straw and the twigs of pine and cedar, a few inches, to keep the loose earth from filling up the drain; leave between the material used to fill in and the upper or plough surface, from 12 to 14 inches.

Fencing Stuff should now be gotten out and hauled to your barn yard, or other convenient place, and during the winter have it worked into posts and rails, so that this work will not have to be done when you are being pressed with other labors in the spring, when your fences should all be in good order.

Gates.—It is very unsightly as well as inconvenient to have bars at the entrances of your fields. If you could have the wood work for the frames prepared in proper time, and you cannot handle the tools sufficiently to enable you or any of your people on the farm to rig up your gates, a day or two will suffice for a country carpenter to fix up all that you may need. The expense will be trifling in comparison with the convenience and comfort, to say nothing of the appearance of such an arrangement.

Working Stock, whether horses, mules or oxen, should be kept in good condition through the winter; if they are permitted to lose flesh materially in the winter, they will not regain it as readily in the spring, when you will require all their strength for the active labors which will then be required of them; indeed, the loss of time and increase of food will be far more than is requisite now to keep them in fair condition. Give them warm and comfortable, but well ventilated stables, which should be kept clean; the droppings cleaned out regularly every day, and a little plaster sprinkled over the same. The effluvium from the manure in close stalls is injurious, particularly to the eyes of horses. As far as possible devise some plan by drains, pipes, or otherwise, to secure the urine from your stock, so that it may have a flow into your manure or compost heap in the barn yard; it is decidedly the richest portion of your home manure, containing a large per centage of ammonia. And here let us suggest that you do not neglect salting your stock of every description; it is essential to the health of man and beast to have access to salt. Rock salt placed so that horses, cattle and sheep can have it within their reach at all times is the cheapest and surest way of dispensing it to your animals.

Breeding Animals.—Mares and cows which are to bring forth their young in the spring should be well provided for, with good, nourishing food, in order that they may have sufficient stamina to give strength to their off-

spring during the period of gestation. Mashes of a generous nature should be given them with their hay or cut straw; let the stables for the mares be comfortable, and furnished with roomy stalls for each, and a plenty of good bedding material, with a yard to run in during fine weather. The cows and in-calf heifers should also have sheds facing the south, and likewise yard-room separate from the other cattle. Let all the yards be supplied with rough materials from which to make manure, by being mixed with the droppings of the stock. Let no opportunity pass unimproved to make manure; it is truly the farmer's bank, upon which his drafts will never be dishonored! Young cattle should always be kept in a separate yard to themselves, and provided with comfortable sheds to shelter them from the cold storms of the winter; supply them with some grain of any kind, with hay to enable them to keep in a healthful and growing state.

Sheep.—Your kind care is no less necessary for these docile and valuable animals. They do not require much to keep them, but that little should not by any neglect or oversight be withheld from them. The ewes which will early bring forth their lambs should be particularly watched, and in addition to other food, should have some grain given them regularly. Turnips are admirable for sheep, and they will thrive on them with a little hay—3 lbs. hay apiece, with a gill of meal, and an occasional mess of roots, will bring them on admirably through the winter, and pay you well in the fine spring lambs which they will produce in due season.

Tobacco Beds.—We refer to our December number for some excellent advice upon the preparation of these, and in future numbers we will treat more largely upon the further cultivation of the plant.

Cotton Planting.—Upon this subject we must also refer to Dr. Pendleton's paper in our last number, and we shall continue to follow up our hints upon this great staple of the South, the success of the culture of which is of more importance to the commercial interests of the world than any other crop raised, except that of corn. Dr. Pendleton, we learn, has just accepted the Professorship of Agriculture in the Georgia State Agricultural College, where, doubtless, his scientific attainments and ripe experience will find a favorable opportunity for extended usefulness. The appointment is an eminently fit one.

Pastures, &c.—In our next we will pay particular attention to these. The subject of the cultivation of the grasses is becoming one of absorbing interest at the South, and we intend to give it our marked attention. In other parts of this number we have given some articles bearing upon this subject, and also upon the management of dairy stock, &c.

Wheat.—The great value of ashes to farmers has never been fully appreciated. The effect of their application to many of the crops is excelled for quickness of results by few other of the fertilizers in common use, perhaps by none other than Peruvian guano or nitrate of ammonia, but they are not as lasting as bone earth. Every farmer should carefully save all the ashes that is made on his farm, and buy whatever quantity he can find any of his neighbors disposed to sell. A very thorough and prosperous farmer of Michigan, Mr. Lockwood, (says the *Farmer* of that State,) having a hogshead of house ashes last fall, he thought he would try the experiment of mixing plaster with them in sowing on wheat. Accordingly he mixed a barrel of plaster with ashes, mixing about one-third of the former to two-thirds of the latter. He sowed at the rate of about fifty pounds to the acre, on one side of a wheat field, the wheat being fairly up. A couple of showers came upon it soon after sowing, and the effect of the application was very soon visible in the deeper color and more vigorous and rapid growth of the grain on the part to which the mixture had been applied. This difference in appearance and growth was maintained through the fall. Last spring the plants on that portion took a more decided start ahead of the rest of the field, the line of separation being distinctly seen from a distance.

Fruit Trees.—Every one should have in mind the importance of putting out fruit and ornamental trees. We have urged this duty during the fall, and now allude to it preparatory to the opening of spring. Fruit growing is destined to be a great business, especially in the South. The introduction of the Alden, and other fruit drying processes is destined to be a greater stimulant than ever in this direction.

Potatoes.—It is too soon, except in the South, to think of planting potatoes, but we think it is timely to hint to our gardeners that the Early Rose is probably the best variety that can be planted to get into an early market. Not only in this country is it highly esteemed for its early and prolific bearing qualities, but in England, as we see it stated in the Gardener's (Eng.) Chronicle, it is considered a god-send to the market gardener. The Rural (La.) Southland says that this crop can be planted in that section in January; prepare the ground thoroughly, manure in the drill with 25 lbs. cotton seed meal to every 100 feet of row, mixing the fertilizer intimately with the soil; cut your potatoes into one-eye pieces, drop two pieces every foot in the drill, and cover by throwing two light furrows upon the row. One good hilling by running twice around the row when the potatoes are two or three inches high, will give a fine crop. For the late crop, the same paper advises to plant whole spring-raised potatoes at any time from July 15 to middle

of August. For the culture in this section, (for there is a difference of 8 to 10 weeks in point of climate, in favor of the South, for this esculent,) we will amplify upon the culture, as suitable to our immediate location. In the meantime we copy the following paragraph from the London "*Field*," (the standard Agricultural and Sporting journal of England,) furnishing a very simple means for the prevention of the potato disease:—

"A farmer at Fontenoy, near Paris, believes to have discovered an efficient means for preventing potato disease, which we think it our duty, says the *Patrie*, to communicate to agriculturists. It consists in the use of tan-waste, the residue of the bark used for tanning, which is taken out of the tan-pits after being exhausted and thrown away as useless. This substance the French farmer collected, and at sowing-time put a small quantity into each hole with the potato. For three years he has carried on this experiment, and each time he has been completely successful; his potato crop, which formerly, when planted in the ordinary way in the same field, was always tainted with the disease, is now thoroughly sound and in a perfect state of preservation."

Pumpkins.—This is not the time to plant pumpkins, but those who were provident enough to raise them last season, will be thankful for having such an excellent feed for their stock at this time. Sheep, hogs and cattle eat them with a great relish.

A Maine farmer says he raised last year 20 ox loads of pumpkins with his corn from an acre, and this spring intends to plant them with his Early Rose Potatoes; the tops of the potatoes die early, which will let in the sun and give the pumpkins a chance to grow—he found by drying and soaking them in milk, and fed to the hogs, they gained fast. He fed his sheep upon the green pumpkins two months, and it did very much towards fattening forty, which he sold for mutton, and the forty which he wintered never did better. He commenced to feed his cattle in September, and fed some every day until February. It saved a vast amount of feed.

An Improved Maryland Farm.

Mr. *C. E. Coffin*, of Muirkirk, Md., whose sketches of the history of the Short-Horns in the *American Farmer* have been read with much interest, and of whose own fine herd of that invaluable race notices have occasionally appeared in these pages, is not only a spirited and successful breeder, but also an enterprising and systematic farmer. We passed a day last month at his farm in Prince George's county, and some items connected with its management will, we are sure, be found interesting. It consists of about 120 acres, nearly all cleared land, and we remember it some few years ago grown up, very much like most of that around it, in weeds and sedge; a considerable portion of it covered at times with surface water, and, at others, baked and cracking under the torrid suns of summer. Now, however, all is changed; and neatness, order and fertility prevail. A considerable space is in meadow, the balance under careful cultivation. A large portion of the place has been underdrained with tiles, the ditching having employed one man exclusively for the last four years, and two extra hands for the past year.

There are kept on the farm about fifty head of short-horn cattle, some six head of horses and mules, and swine varying in numbers from fifty to one hundred. Besides the manure accumulating from this stock, the land receives from the stables of Muirkirk Iron Furnace, that from about fifty more horses. It is therefore not surprising that the unproductive old fields now teem with ample and remunerating harvests.

Mr. Coffin follows a system of partial soiling very similar to that of Mr. Gowen alluded to in our last issue. His cattle are not stall-fed, but are turned out every day in the year, when the weather is not inclement, for fresh air and exercise, into lots of moderate extent, where they are provided with long forage and have access to water.

The crops grown for soiling purposes are, in the order in which they are consumed, first rye, then orchard grass and clover, then oats, sown in succession, then sowed corn and lucerne. For winter consumption great crops of mangold wurtzels and Swedish turnips are grown. The cattle are fed night and morning in the stables. After the first crop of grass is cut from the meadows and the aftermath has grown sufficiently, they are put upon it, and this is the only pasturing done. Lucerne is most highly esteemed by Mr. Coffin, who proposes to increase the area given to it. It is not only very nutritious and productive, but the cattle are extremely fond of it, preferring it above any other forage. It is grown here in drills and cultivated to keep down the weeds. This year there were four acres in mangolds and eight in Swedes, the yield of the latter approaching 5000 bushels. Flat turnips are also raised, but not in such large quantities, their nutritive value being considered less than that of the other roots.

Large quantities of fodder corn are grown, which is both fed green and cured for winter.

A convenient and commodious barn has recently been erected by Mr. Coffin, from plans furnished by Col. Waring, of Newport, R. I., well known as a farm and drainage engineer. The building has three stories, its dimensions being 44 by 100 feet, not including the engine room, and its height from the foundation to the ridge-pole about 60 feet. Each floor can be reached by wagons or carts, the barn being built with one end against a hill. The upper floor besides giving accommodation for seed, tool and meal rooms, affords immense storage room for hay—probably of the capacity of 200 tons. The space is unbroken by bays, and a four horse wagon can be driven through and unloaded on any part. The floor is of two inch stuff, so laid that no dust can go through. On the middle story or floor the cattle are kept. At one end there are three large square stalls for the bulls. Facing a passage way, which runs through the middle of the barn its entire length, are two rows of stalls for the cows, and along the sides are square pens for the calves and young heifers. The cows, which stand in pairs upon a platform slightly raised above the passage ways, are not confined in stanchions, but by halters affixed to rings sliding on rods at the side of the stalls. The fronts of the stalls are cut out to allow of the projection of the animals' heads over the feeding troughs. Between the rows of stalls and the pens along the sides of the barn there are passage ways, in the floor of which at short intervals are trap-doors, through which the excrements are thrown into the cellar below. The pens and stalls all have their floors inclined to these passage ways, and all the liquid manure flows immediately through apertures made for the purpose, and falls upon the solid materials in the cellar.

On the same floor with the stock is a steaming room in which, in large vats heated by steam, is cooked the food for the calves and hogs. The former get cornmeal mixed with a little oil cake, the latter meal alone. The older cattle get no grain at all, and the cooking of their food is entirely discarded as tending to make them delicate and liable to disease. Each animal, however, receives a half bushel of roots, besides a little mill stuff, night and morning.

The entire cellar of the barn, except one end, is used for the manure. This, as noted, is thrown down through the floor above, and the urine runs down continually apon the piles thus formed. Upon each day's accumulation there is thrown a sifting of kainit and plaster—the kainit to add to the potash in the heap and the plaster to attract and fix the evanescent ammonia. This latter office seems to be well performed, as we noticed in the stable no perceptible odor from the manure below. Carts or wagons can be taken into any part of the cellar. The root cellar is separated from that for the manure by a thick wall, and is of large capacity, though not sufficient to contain more than a moiety of this year's crop, the remainder of which is stored on the upper floor of the barn, covered with straw.

Outside of the main building is a fire-proof engine room, containing a boiler and a 16 horse power engine, which drives a grist mill in the meal room, the root and fodder cutters, the oil cake crusher, &c. On the opposite side of the barn is a water cistern of the capacity of some 9000 gallons. It is circular in shape, built of a solid two feet wall laid in hydraulic cement, and supplied from a well by a pump worked by a windmill, which has proved an effective and reliable power.

The foundation walls of the barn are of stone, two feet thick, laid in cement, the timbers are stout and substantial, the weather boarding well matched and battened, the roof of slate, and the whole building neatly painted. Provision is made for ventilation of the cellar and stables by means of air shafts, carried up to an outlet in the apex of the roof, which are said to work satisfactorily. The structure is a plain but well proportioned one, admirably answering the purposes for which it was designed in every respect. It has stalls for sixty-two head of cattle, and its cost, including cistern, engine and boiler was, we believe, about $10,000.

Of Mr. Coffin's herd of Short-Horns, we have not space enough to speak as the merits of the particular animals deserve. At the head of the herd is now the pure Booth bull *Royal Briton*. A more massive, symmetrical and handsome animal it is almost impossible to conceive of. He is red and roan in color, of great length and immense in depth and thickness. He is about four years old, and in very moderate condition, his weight now being within 2100, though he has weighed 2240 lbs.

The other bulls are *Lord Abraham*, also deep in the Booth blood, and *Lord Mayor*, of the Princess tribe; the former is a roan, the latter red, and both fine, well shaped animals.

Of the cows and heifers we can name only a few. *Masterpiece* is a fine cow, now seven years old, roan; *Elvina* 3d, red and white, and *Blossom*, roan, are two handsome, matronly looking cows; *Rosamond* 9th and *Blanche* are white heifers, both about two years old, the former very stylish and shapely, the latter compact and neat, and an animal of the herd for whom we have conceived a great liking. *Anita*, *Brittania* 18th and *Portulaca* are fine red cows, the second with some white. *Muirkirk Gwynne*, *Belle*, and *Water Nymph* are heifers which would be hard to surpass in any herd. *Muirkirk Gwynne* is particularly a model, especially fine about her crops and breast, perfect in shape and touch. Mention of the other "young things" we must omit for the present, as well as of the Berkshires, which Mr. Coffin also breeds in great excellence.

Steam Ploughing.

The introduction of steam power for the purposes of farming, has for many years been attempted, but for general use it has not yet been successful, although a considerable advance is being made in rendering it applicable to the various purposes of agriculture. We have now the steam thresher in successful operation, and the farmer in having his wheat, rye or oat crops threshed out by one of these travelling machines, will make as great a saving of time compared to the horse power thresher, as the latter enjoys over the old flail. We have no doubt that at no distant day the improvements which will be made in the steam engine will obviate all difficulties, and that for all purposes of the farmer, not excluding even the travel upon the public roads, a perfect machine will be secured.

A number of years ago, Obed Hussey, the inventor of the first successful reaping machine, introduced upon our fair grounds a steam plough, which, however, was not a success, and the death of the inventor occurring soon after, it was never perfected. In England there have been steam ploughs introduced, but mainly by the wealthy owners of large domains, or by joint stock companies —where they are used, 8 to 10 acres per day are ploughed by them.

Our attention has been called to the subject at this time, by seeing in the Germantown Telegraph and other papers, the description of a steam plough, which has been tested upon the farm of the Messrs. Landreth, the extensive seed growers near Philadelphia, which is perhaps a decided advance upon any thing of the kind yet presented to the public. For the trial, it was first used as a road motor, drawing two farm-wagons, loaded with interested spectators, on the public highways, crossing a railroad, ascending considerable elevations, and turning round in a common lane. About two miles were thus traversed, but there were other experiments indulged in, such as running up the carriage-way to the barn, stopping half way, and starting up again, &c. These showed that the locomotive possessed the power to overcome ascents. It was also run over a plowed field, through puddles of water, &c., the construction of the wheels preventing undue sinking.

These are great advances made in the right direction. The account before us acknowledges that the work performed by this "Williamson-Thompson" machine (named after the inventors,) was equal to that of any of the English machines for the same purpose; the ploughing was well done and as perfectly as by hand ploughing—the furrows were cut 7 inches deep and 10 inches wide. Mr. Landreth, whose farm comprises some 500 acres, devoted entirely to seed growing, thus candidly reviews the whole operation:

"I *think* we have solved at Bloomsdale the problem of plowing by direct traction, so far as light, level, friable land is concerned. I speak only of such—beyond that our experience does not extend, and I desire not to mislead others. We can readily plow an acre an hour; and while I write these lines I have within sight the Williamson-Thompson engine, with five plows attached, turning over a pretty stiff sod at that rate, and running as steadily as did in olden times the Conestoga wagon."

For the prairie lands of the West, as well as the level lands so generally prevalent at the South, doubtless a near approach of the time for the use of the steam plough is at hand—but it will only be used on very large estates, since the cost will always preclude its introduction among the smaller farmers, unless it is taken hold of by enterprising mechanics, and carried, like the steam thresher, from farm to farm for its operation.—Where labor is scarce and high, this may be

found to be a great blessing, and with the aid of the mower, the thresher, the horse-rake, the hay-tedder, and the numerous other machines which the genius of our countrymen is constantly introducing for the saving of man-power, may, in a little while, help to relieve us from our difficulties, as to the quantity and quality of the labor, upon which we are now obliged to depend. The question, however, may turn entirely upon the relative cost of the two systems.

Lord Dunmore, chairman of the Scottish Steam Cultivation Company, in a recent report shows the vast advantage that is to accrue by the introduction of steam culture in the saving of horse labor.

Great Britain imports nearly £45,000,000 worth of food—there are 529,950 farms in the kingdom, and the increase of crops by steam culture, and decrease of only one horse to a farm would diminish the food imports necessary from £37,000,000 to £28,000,000. As examples, he cites his own case, the number of horses kept by him having decreased two-thirds since he adopted steam culture, and in the case of Mr. Bomford's farms at Pitshill, where 1,023 acres of heavy clay land are cultivated, 30 horses only are now used where 50 were formerly necessary.

The best machine yet brought out, he thinks, is that of John Fowler & Co., of Leeds; and the best way for farmers to adopt to secure its use is by forming co-operative companies. Of Thompson's road steamer "in direct traction of implements" he speaks very highly, and thinks it can be found useful on the farm almost every day of the year.

This "Thompson" steamer is the same as that used in the Landreth trial, but without Mr. Williamson's valuable improvements.

Scientific.

Phosphates and Superphosphates.

In the November number of our last volume we noticed a work about to be published by Messrs. Trubner & Co., of London, entitled "Pure Fertilizers," by Prof. *Campbell Morfit*, formerly of Baltimore. By the table of contents, which we have received, we find that in one of the chapters the distinguished author describes the process which he has lately patented in England for the production of pure phosphate of lime for fertilizing purposes, and in the article given below, which we take from the London *Field*, an interesting and clear account of this method will be found detailed. The new process, though so inexpensive yet entirely effective, promises to almost entirely revolutionize the manufacture of artificial manures, and its effects are already plainly visible in Great Britain, where we see by the trade circular of Messrs. Arnott Bros. & Co., that a great demand is springing up for the low grades of natural phosphates, heretofore not very available, but of which they say "Morfit's new patent will bring low sorts into general use." We call particular attention to the great value which the *Field* ascribes to Dr. Morfit's process in its application to this country.

From the London "Field" of Nov. 16.

As is well known, there are no fertilizers to compare with phosphates. Their virtue consists in phosphorus united with oxygen as phosphoric acid, which acid is found combined with lime in bones, and with lime, alumina, and oxide of iron in what are known as rock guanos or mineral phosphates and coprolites.

It would be of little use to strew coprolites or pieces of rock guano over a field. They would lie there hard and inactive as pebbles. Mineral phosphates are therefore crushed to powder; but not even then are they fit for manure. They would indeed fertilize slowly, but far too slowly for the farmer. It is therefore necessary to make the phosphate of lime soluble; and thus it is accomplished: With the powdered rock guano is mixed sulphuric acid, otherwise oil of vitriol, and the result is that two-thirds of the lime with which the phosphoric acid is united is converted into sulphate of lime, otherwise gypsum, and the third remaining with the phosphoric acid is what is called "superphosphate," or soluble phosphate of lime.

By this operation, however, we do not get "superphosphate" in isolation. It is, in the first place, mixed up with the two-thirds of the lime which by the action of the sulphuric acid has been converted into gypsum. Moreover, no rock guano or coprolites consist entirely of phosphate of lime, but contain more or less chalk, silica, magnesia, oxides and phosphates of alumina and iron, fluoride of calcium, silicate of lime, &c. The sulphuric acid does not affect the silica, but converts the chalk into gypsum. A similar action takes place with the silicate of lime and fluoride of calcium. As for the phosphates of alumina and iron, they are of little assistance to vegetation, and may be regarded, like the silica and sulphate of lime, as so much dead weight.

Not unfrequently analyses of rock guanos are dishonestly set forth with the phosphoric acid as a separate item, and the lime, alumina, and iron run together as if of indifferent and equal values; but it is of the first importance to know precisely what are the associates of the acid. If the acid is locked up to a large extent with alumina and iron, it is so far ineffective. What the agriculturist ought to

know, if he would have value for his money, is not how much phosphoric acid there is in the rock guano, but how much of the said acid there is in combination with lime. The "superphosphate" commonly sold contains from 10 to 30 per cent. of soluble phosphate of lime. The remainder, of 90 to 70 per cent. is composed of sand, gypsum, phosphates of alumina and iron, moisture, &c. Whoever buys a ton of "superphosphate" as manufactured by the ordinary process, takes therein from 14 cwt. to 18 cwt. of rubbish, and sometimes a still heavier proportion when phosphates of alumina and iron are palmed off as equivalent to phosphate of lime.

So much premised, we shall more readily appreciate the advantages of a process invented by Dr. Campbell Morfit for producing pure precipitated phosphate of lime. The rock guano is reduced to powder, placed in a vat, and a proper quantity of hydrochloric (otherwise muriatic) acid added thereto—which, by the way, is a very much cheaper acid than sulphuric. A current of steam is then blown through the mixture from the bottom of the vat, by means of which the contents are perfectly intermingled and the action of the acid facilitated. The result of this operation is that the mass of the rock guano, with the exception of the silica and fluorides, is brought into solution. The insoluble residue is thrown away, being valueless. Thus, one clear advantage is secured: for, as we have seen, by the usual method of "superphosphating," the worthless ingredients are retained to burden and degrade the manure. The solution thus formed retains:

All the phosphate of lime All the phosphate of alumina, All the phosphate of iron,	As phosphates (unaltered) in hydrochloric acid solution.
All the chalk or carbonate of lime	Converted into chloride of calcium.

The next business is to get out of the solution the phosphate of lime in a solid form.

To do so by ordinary methods would be practically impossible. For, suppose we neutralize the acid which holds the phosphates of lime, iron, and alumina in solution with chalk, we should precipitate all three phosphates in a common pulpy mass, and lose the whole of the acid in chloride of calcium.

Here comes Dr. Morfit's triumph. Readily and easily he precipitates the phosphate of lime *alone*, and yet does not sacrifice the acid. To the solution is added an adequate portion of the very impurities from which it is desired to deliver the phosphate of lime, namely, the oxides and phosphates of aluminium and iron. Those elements then take the place of the phosphate of lime in the solution, and the desired phosphate of lime is thrown down as a pure white powder, consisting of a mixture of tri- and di-phosphate of lime.

Having thus isolated the phosphate of lime in a state of singularly fine division, we have in it a most potent fertilizer. No form of phosphate in nature can be compared with it. What is known as "superphosphate," if it maintained its ideal solubility, would probably be washed away by rain ere it had rendered its expected service; but its tendency to "go back," even in the bags used for its storage, is well known to the trade, and it is reasonably conjectured that nearly all "superphosphate" relapses into insoluble tri-phosphate when spread on the soil, and is decomposed gradually under the action of carbonic acid and vegetable life.

But whoever *will* have "superphosphate" need only stir into Morfit's pure precipitated phosphate a bare equivalent of dilute sulphuric acid, and leave it to dry. Being free from chalk, no acid will be lost thereon, and the formation of gypsum will be limited to two of the three atoms of calcium on which phosphoric acid is based.

The "mother liquor" out of which the phosphate of lime is deposited, consists, of course, of phosphates of alumina and iron in muriatic acid. The liquor is a counterpart, but in a much stronger condition, of the acid solution of Alta Vela guano, which is used for purifying sewage, and without the cost of special preparation. If the phosphates of alumina and iron are wanted in a solid form, they may be precipitated by lime; and of course they are then available for the precipitation of fresh batches of phosphate of lime.

Valuable as Dr. Morfit's process may prove in England, it bears yet higher promise for his native country, the United States, where some of the most fertile soils have been exhausted, and can only be restored by a liberal administration of phosphates. W.

The "Alden" System of Fruit Drying.

In one of the numbers of the *American Farmer* of the past year, we drew attention to the introduction of the "Alden" system of drying fruit and vegetables, and published a description of the machinery employed in the operation, furnished us by Gen. Tench Tilghman, of this State. The business is now attracting much attention, and the advantages of the plan cannot be over-rated. The New York Farmer's Club has the subject under its special consideration, and from the report of a committee recently made, of an examination of an establishment at Neshanic, N. J., we are glad to find that there is a prospect of the machinery being considerably reduced in price, so as to be the more readily availed of by communities in the neighborhoods where fruit and vegetable productions suitable for the business indicated are largely produced. It is not necessary for us to repeat the description of the machinery, as those who may determine upon entering into the business will have to place themselves in correspondence with the manufacturers; we will therefore

content ourselves with the following notice by the committee, of which Dr. J. V. C. Smith is chairman, of this New Jersey factory:

The factory at Neshanic, (Hon. John G. Schenck, proprietor,) has three evaporators, one small, three by three feet, the others large, five by five feet. During our visit, the small one was working on apples for a government order, and was using four bushels per hour. The larger ones were working on cores and skins, and on apples not considered large or good enough for the market as evaporated fruit. These are sold to the Manhattan Preserving Company for the manufacture of Alden's jelly. The building is three stories high and a basement. In the basement was the heating apparatus; on the first floor apples were stored, also the cutting and paring tables, and here the trays were run into the evaporator; the second floor was used as a storing and packing room; in the third was the exit of the fruit. We saw that which had been put on at 7 o'clock ready to come off at 12, and it was clear, bright, and did not have the dry, leathery feeling of the common dried fruit. We also saw a large quantity on the second floor, which was equally clear, white, and excellent to the touch, soaked in water, and its natural aroma was developed. We also ate pies and sauce made from this fruit, and they could not be distinguished from those made direct from the raw apple. We were informed that the Company is selling the small evaporator at $1,000. The cost of buildings will vary in different sections, but the whole investment can hardly exceed $2,000. This machine is capable of working 300 bushels of apples per week in day time, which will make 2,000 pounds of evaporated, marketable fruit, and 700 pounds of cores and skins. The evaporated apple is now selling by wholesale at fifteen cents per pound, and the Manhattan Company pay six cents for the dried cores and skins. Hence

300 bushels of apples at 30 cents.....	$90 00
One man, (per week).....	12 00
Eight girls, (per week).....	40 00
Half ton of coal.....	7 00
Interest on investments of 10 per cent.	10 00
Contingencies, 5 per cent. of above.....	7 95
Total.....	$166 95
Product:	
2,000 pounds evaporated apples at fifteen cents.....	$300 00
700 pounds cores and skins at 6 cents.	42 00
Net profit.....	$176 05

If we deduct from this cost of barrels, hauling, freight, incidentals, &c., we cannot possibly reduce this amount to less than $150. At this rate it is evident that in any section where 3,000 bushels of good apples can be obtained at thirty cents per bushel, enough to run the small evaporator for ten weeks, there can easily be made a profit of $1,500, which is thirty-three and a third per cent. upon the original investment. The Alden process has heretofore been confined to a few localities because of the large cost of the apparatus, but the invention and production of this small evaporator obviates that difficulty.

We also saw a large quantity of squash for pies, which had been passed through the evaporator. It was equally as good in all respects as the apples. We saw other fruits and vegetables in smaller quantity. From these it is evident that the evaporator, as above, need not be confined to apples alone, but that before and after the season of apples, other fruits, and all the various vegetables, might be made a source of additional profit.

To sum up, the advantages of the Alden process of preparing fruit so as to keep in any climate and at all seasons, are: First, the fruit retains its natural flavor. Second, the process is conducted quickly, and in the dark, hence the fruit cannot change color, because it has been deprived of the water, through which oxygen acts, before it reaches the light and air. Third, it may be prepared very cheaply, and in the market it brings a higher rate than any of the dried fruits; it enables travelers, or ships on long voyages, to take with them in a small space fruits and vegetables having all the properties of those fresh from the garden. Fourth, being evaporated out of the air, flies do not speck them, nor does dust become incorporated in the pores. Fifth, by the nature of the process, a part of the starch of the fruit or vegetable is converted into grape sugar, hence the articles evaporated by the Alden process require less sugar in cooking than even the fresh material. Sixth, the meshes of the trays being made of twine, no taste is imparted to the fruit; and, seventh, there being no moist acid to act on either tin or wood, in which it may be packed, the Alden fruits or vegetables are absolutely free from any taste or smell of tin or lead poison, or anything except those flavors and acids natural to them.

The Committee, in their remarks to the Club on the presentation of their report, reiterated their satisfaction at what they had witnessed. A sample of the jelly alluded to was exhibited at the American Institute Fair, and elicited much commendation.

Cotton Seed Oil.

In the present condition of the Southern States, it is evident that a very different course must be pursued from that followed in their palmy days of old—they must condescend to "gather up the fragments, that nothing may be lost,"—and to look after the *smaller* matters of the plantation, and bring them into profitable use. This can be done with many of the productions of their mild climate, to a greater extent than is possible in colder localities. Amongst other matters worthy of more attention than perhaps is now being paid to it, we

may mention that of Cotton Seed Oil, and the residuum thereof for the purpose of feeding cattle. Prior to the war, there were a number of mills in operation for the manufacture of oil from the cotton seed, but like many of the other institutions of the South, but few of these mills of any consequence, survived the war, and even those that did so, were located outside the lines of the Southern authorities, one being in existence at Providence, R. I., one at New Orleans, and the other at St. Louis, Mo.

From an article written by J. R. Sypher, Esq., and appended to a treatise on Cotton Culture, by Jos. B. Lyman, some facts are gathered which may be interesting and be made useful to cotton growers.

The attempt was made to use this oil for the manufacture of fine soaps, but for a long time without success, soap makers having arrived at the conclusion that a firm, durable article could not be made from cotton seed oil. Subsequent experiments, however, by a Mr. Harrison, were found successful in the manufacture of hard soap, for family purposes, although all efforts to manufacture "cold made soap" failed. Mr. H. thought that at sixty cents per gallon it was the cheapest and most durable soap stock known to commerce; but the demand was never equal to the supply.

The seed available for oil making amounts to about 1,500,000 tons, which should yield 45,000,000 gallons annually. The first great necessity is to find a more general use for the oil. Heretofore it has been sold under other names, which has given it a bad character in the commercial world—a few soap makers only purchasing and using it under its true name.

The process of refining is very simple. The oil is heated by means of steam pipes passing through a metal tank, being kept all the while in agitation. A solution of soda ash of commerce, having a strength of about 30 degrees, should be added by degrees in the proportion of one to ten of oil. The oil should be heated to 100 degrees, the stirring continued until the temperature has gone down to its natural state. It is left in the tank for 24 hours and drawn off.

The ground seed, from which the oil has been expressed, is known to commerce as "cotton-seed cake," and is consumed principally in feeding cattle. It is classed by general feeders with linseed cake, though chemists and scientific dairymen claim for it a superiority. When fed to milch cows, it increases the quantity and improves the quality of the milk; it is a rapid flesh former, and the manure of the stock yard where cotton seed meal is fed is of a very superior quality.

Dairymen and stock feeders, in this country, where corn and root vegetables are abundant and cheap, were slow to try experiments, and hence could not be induced to use the cotton seed-cake. The great bulk of it was therefore shipped to Liverpool, England, where it found ready sale at from forty to forty-seven dollars per ton. Small quantities were fed in this country, and a few manufacturers of fertilizers used it to mix with other ingredients.

The cake can be ground into fine meal in a corn and cob mill, and, in this state, if mixed with cut straw or corn stalks and salted, makes a very superior feed for cattle. This is the proper mode of treating it. The farmers and planters in the South might thus, at small expense, convert the corn stalks and cobs of their wide fields into stacks and bins of forage, which, when made palatable to their animals, and enriched by the addition of cotton-seed meal and salt, would furnish ample supplies during the winter and spring months, and save vast sums of money now spent in the purchase of hay and oats. At a low estimate, the value of the cotton-seed which hitherto has annually been destroyed in the Southern States would have amounted to not less than $7,000,000. This crude material might be so transformed by simple processes as to greatly increase its value, and supply to the country, hitherto impoverished by its destruction, just what it most needs. If the discoveries which Mr. A. W. Harrison claims to have made can become known and available to all soap-makers, then, at no distant time, there will be made from the cotton-seed the oils for ordinary uses, the soap for family and toilet purposes; the cake meal will supply good forage for the plantation stock, and a superior fertilizer for the soil; and the ashes of the hulls burned under the boilers, will yield a caustic solution, that can be used both in refining the oil and in the manufacture of soap. All of these operations are exceedingly simple, and may be performed, under the direction of a skilful superintendent, by the ordinary laborers that are found in any of the villages and cities in the country.

Live Stock.

Short Horn Breeders' Convention.

As before announced, a convention of the Short Horn breeders of the United States and Canada was held at Indianapolis on the 27th November, to take into consideration questions relating to the general interests of the breeders of the country. The convention was a mass convention, and brought together about one hundred and twenty of well known Short Horn breeders of the country, there being thirteen States represented.

After the formation of the convention, committees were appointed to prepare business for its consideration. The following appears to be the result of the deliberations of the convention, after much discussion:

On motion of Mr. Page, of New York, it was recommended to agricultural societies to employ only experts as judges and to pay their expenses to and from, and while attending the fair as such judges. It was also further

Resolved, That the practice of many societies of prohibiting consultation among judges is unfavorable to the making of correct awards, but we think that the most satisfactory results may be attained by balloting first and consulting afterwards, and that the president and directors of Agricultural Associations are, in the opinion of this convention, the proper officers to appoint judges, and should be held responsible for their fitness.

There was much discussion upon a resolution against over feeding animals for exhibition, which eventuated in the passage of the following resolution, which was adopted by a small majority:

Resolved, That in the estimation of this convention it is not only necessary in successfully breeding Short Horn cattle, that we should secure animals of fine form, pedigree, &c., but that they should be *well fed* and cared for; at the same time we look upon the practice of keeping up cattle without exercise, and feeding to their utmost capacity for the purpose of show and sale, as injurious to their health and usefulness as breeders.

The most absorbing question was that of the American Herd Book, considerable fault being found with the present editor, Mr. L. F. Allen, who has published the work for 25 years. Mr. A. appeared in defence of his course, alluded to the difficulties he had to encounter, and avowed his only desire was to publish a perfectly reliable book, and that he was willing to conform to the wishes of the breeders as far as possible. This disarmed opposition, and the committee appointed for the purpose offered a report for the better management of the herd book hereafter, giving details for registering, &c., which was adopted as follows:

Resolved, That for the better management af the A. H. B. in future, the committee make the following recommendations:

Resolved, That the name and address of both breeder and owner shall be given, together with the date of birth and color of the animal.

Resolved, That the ancestry of animals should be traced on both sides to imported animals, or those heretofore recorded in the A. H. B. with correct pedigrees, before they can be entitled to registry.

Resolved, That family names should belong to the breeder first claiming that name in some agricultural paper of the United States or Canada, or in previous volumes of the Herd Book.

Resolved, That the person under whose direction the animals are coupled, shall be recognized as the breeder of the produce.

Resolved, That a committee shall be appointed by the president and directors of the association, whose duty it shall be to examine all pedigrees charged by any member of the association as errors or forgeries, or any believed to be such, and when decided to be wrong, that the facts be published in a chapter of errors, to be attached to each succeeding volume of the Herd Book.

Resolved, That Hon. L. F. Allen be requested to continue the publication of the A. H. B. in accordance with the above recommendations.

The fifth resolution of this series entirely reverses the present practice both in this country and in Great Britain, but the vote was unanimous in its favor, the argument being that the person under whose direction animals are coupled alone shows skill and judgment, or evinces the lack of those qualities, while the ownership of the dam at the birth of her young is a mere accidental circumstance, changing at will, and not affecting the question of the breeding.

The following definition of terms was adopted, to avoid the present confusion existing therein:

Pure bred—Full blood—Thoroughbred—Synonymns referring to animals of a distinct and well defined breed without any admixture of other blood. *Cross Breeds*—Animals produced by breeding together different breeds. *Grades*—The product of crosses between a pure breed and a "native." *High Grades*—Animals of mixed blood, in which the pure breed largely predominates.

A constitution was adopted for the permanency of the association, and Dr. A. C. Stevenson, of Greencastle, Indiana, was elected President; B. H. Campbell, of Batavia, Ill., Secretary; and John G. Dun, of London, Ohio, Treasurer—with two Vice Presidents—also a Director for each State represented. Mr. C. E. Coffin represents Maryland in the board.

Resolutions were unanimously adopted, of the following import, after which the meeting adjourned to November, 1873.

Whereas, The general government of the United States has made large and liberal appropriations to the respective States for the establishment of agricultural colleges; and

Whereas, The live stock interest of the country is of vast and growing importance, and entitled to its just share of such appropriations, with other agricultural interests; and

Whereas, Comparatively little is known of the diseases of domestic animals, and their treatment and cure—Therefore be it

Resolved, That we, the breeders of Short Horns, recommend the establishment of an efficient professorship of veterinary practice

in each agricultural college, and that said professorship receive a liberal endowment from the college fund.

Resolved, That we invite the breeders of horses and other domestic animals, to unite and co-operate with us in promoting this object.

National Swine-Breeders' Association.

The meeting of this body took place at Indianapolis, Ind., on 20th November. Dr. A. C. Stephenson, of Indiana, was appointed chairman, and Geo. W. Rust, Esq., of Chicago, secretary. The report of proceedings we find in detail in the *Prairie Farmer*, a brief abstract from which is given.

A number of reports were presented from committees that had been appointed at a former meeting, upon the history, characteristics, and a scale of points for the respective breeds, which will be found quite interesting to breeders of swine, and from which we will from time to time make extracts.

A committee was appointed by the Association to prepare a classification of swine, to be recommended for adoption by agricultural societies, who reported as follows:

Class 1. Berkshires. Class 2. Poland-China. Class 3. Large white breeds. To include Chester Whites, Large Yorkshires, Large Lancashires, Cheshires, or Jefferson Co., and other similar swine. Class 4. Small white breeds. To include Suffolks, Small Yorkshires, Small Lancashires, and other similar swine. Class 5. Small black breeds. Essex and Neapolitans. Class 6. Cross breeds, and all not eligible in the other classes.

Mr. A. B. Allen, of N. Y., who was the chairman of the committee on Berkshires, made a very thorough report upon that class, claiming that the family of Berkshires is traced back to the county of that name in England; "the family, however, which was the foundation of the present improved breed, was of a sandy, or buff color, about equally spotted with black; was of a large size, a slow feeder, and did not fully mature till two and a half to three years old. But as such it was ever highly esteemed for the greater proportion of lean and fat in its meat, and for the superior weight of its hams and shoulders; thus rendering the whole carcass peculiarly well fitted for smoking, for which purpose it was said to excel all other English breeds." The present race of Berkshires continue to enjoy the excellent qualities of their progenitors, and the best stock raisers of our day give them the pre-eminence over all others. The late Geo. Patterson, of Carroll county, Md., would not permit any other breed upon his estate, considering them as the most superior for the general purposes of the farmer, while the excellency of the flesh for the tooth of the epicure has gained for them the title of "the gentleman's hog."

Mr. Allen, in his report, says that "the present improved breed was brought about by the use of a Siamese boar, in Berkshire, to the old style of females, as long as it was considered best, when he was discarded, and the cross pigs then bred together; thus establishing one of the most valuable and perfect breeds of swine now known, which may emphatically be called the farmer's hog." He adds: "In one respect they may be said to excel all other breeds with which the committee are acquainted, and that is, in the superior weight and quality of their hams and shoulders; these yielding a much greater proportion of tender, lean, juicy, well marbled meat, in comparison to the fat, than can be found elsewhere. The sides also partake of the same desirable qualities, and are therefore of superior excellence for bacon. Considering these, it is to be hoped that the Americans, at least, will never attempt to alter the breed by crossing other swine upon it, for the only result will be a deterioration. The Berkshires can improve most other breeds, but no other breed that we know of can improve them; we would not even recommend a fresh cross of the pure Siamese."

"The first importation of which we can find any record was made in the year 1823, by Mr. Brentnal, an English farmer, who settled in English Neighborhood, New Jersey. The second was made in 1832, by Mr. Harves, another English farmer, who lived in Albany, N. Y.; and others in the United States and Canada, too numerous to mention, soon followed with larger importations. All these Berkshires were substantially the same in size, quality, style and marking as the best of the present day. A. B. ALLEN."

The committee submit the following standard of characteristics and markings:

Color, black, with white on feet, face, tip of tail, and an occasional splash of white on the arm, while a small spot of white on some other part of the body does not argue an impurity of blood, yet it is to be discouraged to the end that uniformity of color may be attained by breeders; white upon one ear, or a bronze or copper spot on some part of the body argues no impurity, rather a re-appearance of original colors. Markings of white other than those named above are suspicious, and a pig so marked should be rejected.

Face, short, fine and well dished, broad between the eyes. Ears, generally, almost erect, but sometimes inclining forward with advancing age, small, thin, soft, and showing veins. Jowl full. Neck short and thick. Shoulder short from neck, to middling deep from back down. Back broad and straight, or a very little arched. Ribs—long ribs, well sprung, giving rotundity of body; short ribs of good length, giving breadth and levelness of loins. Hips, good length from point of hip to rump. Hams, thick, round and deep, holding their thickness well back and down to the hocks. Tail, fine and stiff, set on high up. Legs, short and fine, but straight and very strong, with hoofs erect, legs set wide apart. Size medium. Length medium, extremes are to be

avoided. Bone, fine and compact. Offal, very light. Hair fine and soft, no bristles. Skin pliable.

The Berkshires are hardy, prolific and excellent nurses; their meat is of superior quality, with fat and lean well mixed.

[We will give in future numbers portions of the reports on the other breeds.]

Correspondence.

State Agricultural Society—Railroads.

In looking over your remarks on the Maryland State Show, in November number of the *American Farmer*, there seemed to me to be several points mentioned that would bear enlarging upon. First, "Our State Society, from some reason, has not been very popular with the farmers of the State generally, and their indifference has been shown as well by their own absence as by their failure to show their stock and agricultural productions." There are a number of reasons why the farmers of Maryland do not attend the Fair, and do not bring their stock. One is, that the Fair Grounds are at present in a very inaccessible place, and can only be reached at a considerable expense. A farmer coming from any part of Maryland, except that through which the Northern Central railroad passes, finds himself in Baltimore with only perhaps the easiest part of his journey completed. The next question for him is, "how shall I get out to the Fair Grounds?" Then he finds he can take omnibusses from certain stations, or go from the Northern Central railroad station to Mt. Washington, where a walk or ride of a mile and a half is to be taken; thus he consumes almost half a day in getting to the grounds, besides the cost of so doing is much more than he ought to be expected to incur. This *trouble* and *expense* keep the farmers of Maryland from attending the State Fair.

But when it comes to sending his stock to the Fair Grounds, oh, then he finds himself indeed in a bad predicament. Unless he lives near enough to the grounds to be able to drive his stock, if it be cattle, or wagon it if it be sheep or swine, he finds himself placed at a great expense. If he ships them by cars or boat to Baltimore, he finds on their arrival there that they have to be driven or wagoned about six miles to the Fair Grounds, and this involves great expense and risk of injury to his live stock, especially if they have to be driven. Now, a farmer having fine stock does not like to take the risk of losing them for the mere chance of taking a premium, and in addition have to pay a *heavy* freight bill to the Railroad Company carrying his stock to Baltimore. This brings me to the subject of *Railroads.* It seems strange that the State Agricultural Society does not have influence enough with them to induce them to do the *fair* thing with the exhibitors at the Society's Fair. The Society expects the farmers of the State to have *public spirit* enough to be willing to give their time and that of their hired men, if required, to exhibit their cattle, swine, sheep, and agricultural productions generally. Now if this is the case, why should they not expect and *demand* that the railroads of the State should be public-spirited enough to carry all live stock and all other articles destined for the State Fair *free;* let the freight be paid one way, but if the animals or articles are returned to the station from which they came, then let the money be refunded. This the railroads do in Virginia; and not only this, but more. I was informed by the President of the Lynchburg Agricultural Society that this year special instructions were given to the agents along the route of the Virginia and Tennessee railroad that the day before the Lynchburg Fair no stock should be shipped from the stations but that destined for the Fair, so that there should be no delay or inconvenience arise to those desiring to exhibit stock at that Fair. All this should be demanded of the railroads of this State; but even if demanded, it is a great question if the demand will be granted, as the railroads of this State, as a general rule, are not inclined to be public-spirited, or to try to benefit the farmer. They charge just as high freights to the farmer as he can possibly bear, and do not seem to offer any encouragement for the development of the lands through which they pass. It is a great question with many whether some of these roads have not been a harm instead of a benefit to the farming lands around them, not that they might not be of great benefit, but that the *near-sighted* policy under which they are run works the other way.

There is another feature, or rather non-feature of the Fair to which I would like to refer. This is the absence of ploughing matches, and of trials of such agricultural implements as can be tried at the season of the year in which the Fair is held. Surely the *farmer* would take more interest in seeing implements worked, and also in being able to judge for *himself* which are the best implements; for the farmers do not seem to care much for the premiums awarded by committees at Fairs. How absurd it is to give the premium for the *best* mower, reaper, horse rake, plow, thrasher, &c., &c., simply from seeing them set up in the field without being worked. Why, the farmer can see the implements in that way at the agricultural stores on any day, and arrive at a conclusion equal to that of any committee, as they mainly have to go on datas offered by the exhibitors.

Again, in regard to oxen. As far as my observation goes, the premium is generally given just from looking at the oxen, and not from an actual trial as to their merits. There ought to be a trial as to their ability to haul heavy loads up hill and down, to back, and their quickness in responding to the request of the driver. Such trials as these would interest the farmer to come to the Fair, and to take part in them. A farmer wants to go to the Fair to learn as well as to be amused, and the Fair

should be conducted so as to accomplish this as far as possible. In regard to the horse trotting, or *trials of speed*, being an advantage or disadvantage, why, that is a mooted question. The quality of the racing generally seen at Agricultural Fairs is very poor, as that at the Maryland State Fair was this year. There is no doubt in my mind but that it interferes with all the other operations of the Fair, and although it may contribute in a measure to the success of the Fair, it is doubtful if its abandonment would injure that success, *provided* that the Fair grounds were in a place easy of access from all parts of the State. It is to be hoped that the officers of the Society will endeavor to remedy these evils as far as possible. The last exhibition was more of a success than any since the present grounds have been occupied; and if the grounds could be made more accessible and the expenses to the exhibitors cut down, there is not much doubt but that the Society will prosper. Hoping that these suggestions will receive favorable consideration from those most interested in the success of the Society, I remain its well wisher, SPEED THE PLOW.

THE FARMER—THE FARMING INTERESTS—PUBLIC ROADS—HEDGES—FENCING—PRUNING FRUIT TREES—GRAPE CULTURE AND WINE MAKING—THE TARIFF SYSTEM.

Messrs. Editors of the American Farmer:

I have a rather vague recollection of having promised to write to you as soon as the season of active field labor was over. The cold weather is here at last, and will probably abide with us for some months. Its advent enables me to fulfill my promise before the close of the year, though not before the close of your first interesting volume. I don't know what may be the opinion of other readers of your journal, but I may be allowed to say that I have derived much valuable information from yourselves and your intelligent contributors, and I hope you may succeed in making the *Farmer*—in the future, as in the past—the repository of the thoughts and experience of many of the leading agriculturists of our country. My own pen has long been idle, and my hands are too hard and stiff with toil in these sad latter days, to use it with much facility. I have taken it up now with no expectation that it can furnish instruction to any of your readers, much less solve the knotty question of "What shall we do?" but simply to manifest my interest in the successful revival of *the Old Pioneer*.

In common with most of your subscribers, and many of the writers for your pages, I have lost in the last decade all investments save that in land. Having been deprived of our labor without preparation or just compensation, we are now compelled to cultivate our farms with insufficient means, and with poor encouragement from a government representing a nation whose chief wealth is its agricultural productions. I know but few farmers now who are not active laboring men. Some implement of husbandry is always in their hands, and their faces are ever turned towards the earth. Most of them will eventually overcome all difficulties and work out their own salvation, but to many it will be a long and bitter struggle. Their labor would be comparatively light if they could sell their surplus land, for all of us have more than we can now cultivate profitably. It is a great mistake to suppose that any considerable number of Southern landholders have, since the war, seated themselves in idleness and despair. The industry and energy of our people have been quite equal to the exigencies of the situation; and if the legislation of the country was not shaped so exclusively in the interest of corrupt *rings* and bloated monopolists, our landholders would ere this have recovered to some extent the prosperity they enjoyed in the good days when statesmen and not speculators made our laws.

But, Messrs. Editors, I do not intend to discuss politics, although I have a decided conviction that, next to industry and economy, the recuperation of our agriculture depends upon Congressional action. There should be no favored industries protected at the expense of others. The farmers of the nation should insist upon equal rights. The fact that they have never combined, and never will unite, as do the laborers in other pursuits, has caused the politicians to be so indifferent to their wants and interests. What public man, in this age, seems to care about the value of land or its products? On the other hand, let me quote the few following suspicious lines from a late New York paper: "Senators and members of the house are here in considerable numbers, and may be seen in the offices of the great bankers down in Wall street comparing notes, and obtaining points for future reference." It is also quite evident from the President's Message and accompanying documents, that the policy of the government is to undergo no change, as all "*the leading pursuits of the country are prosperous.*" Alas for agriculture! It is no longer a leading pursuit of the nation, or worthy of much consideration. The monopolists and manufacturers are to be *protected* for another four years in their robbery of the farmers and laborers of the land. If we could be spared the burden of this indirect taxation, the farmers of Maryland would save enough money every year to enable them to adopt most of your suggestions for improving their lands. But, as things now go, the majority of them do not feel able even to subscribe for an agricultural journal. Enough of this, however; it is not pleasant or proper to expose or complain of our poverty, but the *impecunious* condition of landholders generally should not be overlooked by those who undertake to tell them how to farm profitably. Although the Secretary of the Treasury may boast that the *leading pursuits* (so-called) of the country "are strong in the possession of adequate capital, and a supply of intelligent labor," such, unfortunately, is not the case

with our own humble and neglected pursuit; nor is it likely to be so long as he and others of like views are suffered to control the financial policy of the nation.

But there are some things we can ourselves do for the advancement of our prosperity, without much or any additional taxation or expenditure of private means. Among these, the construction of good public roads, unobstructed by gates or bars. Whatever else may be done to restore value to our lands, I fear we shall not succeed in attracting purchasers to them, until there is a change for the better in our common roads. One of the primary difficulties seems to be the disinclination of many to give sufficient land for their proper construction; and I have observed that where the soil is the poorest and least valuable, this feeling is often the most strongly displayed. Along many of our public roads crops are annually planted within a foot of the wheel-ruts, so that it is impossible for vehicles to pass each other without damage to the growing grain or tobacco. Then, our *gates!* You would be surprised to see some of these wonderful contrivances for testing the strength of those who have to open and close them. Well may the weary traveller exclaim with the Psalmist: "Lift up your heads, O ye gates!" I forbear to give you a description of them, as it is not desirable that they should be multiplied in any land where profanity is discountenanced. Suffice it to say, that not a particle of iron is used in making or hanging many of them; and the only tools employed in their construction are the axe and the auger. Necessity may be the mother of invention, but some of her productions in this line are certainly not very comely or convenient. Our poverty may justify their use at this time, but we cannot excuse the short-sighted policy that contracts our roads within their present narrow limits. In those sections of the State where land is worth the most, the roads are the broadest and best. Who doubts that the farms in the richest portions of Frederick county, for example, would immediately and greatly depreciate in value if their owners were, by common consent, to remove their outside fences and proceed to establish the gate nuisance upon their highways? There is yet an abundant supply of timber for fences on most of the farms of this county; but I may suggest that there is great waste in the common mode of constructing them. Our worm fences require a vast amount of material, and occupy much valuable ground. They were invented by the first settlers of our country, whose chief difficulty was to dispose of the wood that then encumbered their lands. They are very interesting *wood-piles*, and most productive nurseries of noxious weeds. They also make beautiful "bon-fires" when a spark from some careless negro's pipe happens to fall among the dry leaves and grass to be found in most of their corners at this season. When hogs are not allowed to range the fields, I have found a fence of three and even two rails, mortised into light but deep set posts, quite sufficient to keep my stock within bounds. Besides the saving both in lumber and land, the lines of such light fences are marked by an entire absence of briars and weeds. My grazing animals, by putting their heads between the two rails, keep them cropped clean on both sides. In no instance, as yet, have any of them passed through or over this light, strong and cheap barrier. Estimates of the extraordinary cost of building and repairing our fences are often published, and we might suppose that so heavy a tax upon our industry would lead to their disuse. Public opinion, however, seems to favor their continuance, and I presume that we shall have to bear the burden as long as fencing materials can be obtained.

Farmers who have but little timber left on their estates, would perhaps do well to sow chestnuts and the seed of other fast-growing trees, until a good plantation for future wants is again established. Let them also consult Dr. Warder's little book on "*Hedges*," (especially if they desire to raise mutton in our curcursed country,) and learn what he has to say about the Osage orange and its cultivation. Many persons object to planting it, because, as they say, they cannot afford to exclude their stock for so many years from the fields in which it would be growing. My plan is to set the hedge-row along the border of a field which I design to cultivate for two years; then remove the fence to the other side of the hedge, and take two crops from the field in which it then stands. The protecting fence should be placed far enough from the hedge-row to allow of its being worked as often and well as the crops cultivated in the two fields during its growth. At the end of four years (if good plants were set out and the ground well prepared) the hedge will be strong enough to take care of itself, and the fence may be removed. Whoever determines to have such live fences, should implicitly follow Dr. Warder's directions for *pruning*. If he neglects them, he will certainly fail to have a good hedge. And in regard to the subject of pruning, let me here say to beginners in *fruit culture*, that if they would attain the best results, they must use the knife freely when their trees and vines are first planted. The tops and branches which come to them from the crowded rows of a nursery, are ill grown and worthless; and on such fruits as the raspberry, blackberry and grape, should be removed within a few inches of the roots. On the grape-vine but one or two buds at the most should be left. Immediately after planting peach trees, I cut off *every limb*, and shorten back the tops more or less to secure an even height throughout the orchard. When planting the apple, pear, cherry, &c., I cut back the branches from one-half to two-thirds, and remove some (where crowded) entirely. This close pruning at the start not only restores the balance between top and root, but results in the rapid growth of new and better heads, which may be made at any desired height. After forming these new heads by the proper arrangement of the

few necessary leading branches, and which is generally accomplished in the first two years, my experience teaches me that, save in rare instances of malformation, the knife should be laid aside, and fruit *trees* left as severely alone. With most *small fruits* the pruning must of course be annual, regular and systematic.

Knowing my fondness for *Grapes*, you will, perhaps, expect me to say something about them, and I would willingly do so if time permitted. I have carefully noted the rapid progress which has been made in vine culture since the war, stimulated by the high prices then obtained for both grapes and native wines of all brands. Last fall grapes were so abundant in our city markets as to be unsaleable. I venture to predict that grape-growing will soon be abandoned by many now engaged in it, and that hundreds of acres of vines now growing will rapidly disappear. If this letter was not already too long, I would give you my reasons for this opinion. But I have as little doubt that the business of *Wine-growing* will become as firmly established as any of our industries, and the time is not distant when we shall have an abundant supply of really *good* native wine at low prices.

The late lamented farmer of Chappaqua, as is well known, was an earnest advocate of the calamitous and unrepublican policy of protecting a few favored capitalists at the expense of the great body of the people. Had he been compelled to earn his bread by the plough, he would probably have seen the question in a different light. His inquisitive mind would soon have discovered the connection between a farmer's collapsed pocket-book and an inflated rate of duties, and he would have given us his usual array of facts and figures, showing just how little of the enhanced cost of everything we buy went into the national treasury, and how much into the pockets of the manufacturers. It is a question that concerns all tillers of the soil, and should be of paramount importance. Will they ever present a united front to the protectionists, or (to give them their proper name) *abstractivcists*, whose cunning tricks for transferring our little earnings to their own purses, are the most amazing to be found in the art of political legerdemain. LABORER.

Anne Arundel Co., Md., December, 1872.

THE PROFIT IN CLEARING AND CULTIVATING DETACHED AND STRAGGLING WOOD-LANDS.—There is one thing that strikes the eye of agriculturists from the North, or at least of such as are from thrifty localities and are men of any taste, who come down to the States of Maryland, Virginia and those further South, and that is the want of neatness, of cleanliness, in our farming; a lack of ambition to apply the axe to the filthy fence rows. Many of our fields are in a state of semi-culture—young trees, briars, weeds, grow in them, and no attempt is made to eradicate them. And this is not all. An enclosed field will have an acre or two in its centre, or on one side, grown up in scrambling trees, and streams of delicious water are often hidden from view by shrubs hardly worthy the name of trees, beneath whose branches are buried long accumulations of fallen leaves, making rich the soil for man. This kind of land in its present condition brings in nothing to its owner, though the taxes we pay for it are no inconsiderable item.

I have asked several farmers who have such nuisances why they do not get rid of them. Well, says one man, these places make good harbors for the cattle to go into to get rid of the flies. It is very true cattle there get rid of the flies, to some extent, but at the same time, they get effectually rid of their masters. I have seen three negro men run a yoke of steers up and down such a place in fly-time for hours, until, in fact, both steers and negroes would stop and pant with heat. This is the useful fly-brush of which they speak so kindly! Those that like these places are welcome to keep them, but all such in my possession I shall cut down and grub up, and by so doing make that productive which now produces naught.

But many old fogies say that this paying twenty-five dollars an acre to clear land is dearly buying your own land, and this they say will never do. To those gentlemen I say it *will* do, and do well. I will pay thirty-five dollars, if necessary, to clear such land, and then make money by so doing. I will, by figures, here prove my assertion, not theoretically, but by a copy of facts taken from my books.

The land which I have cleared and cropped gives me the following results. The estimate made here are by the acre, on an average:

Cutting, burning brush, hauling off wood, and board of hands	$13 50
Grubbing	18 00
Total cost of clearing	$31 50

This land I planted in peach-blow potatoes, about the 15th June of the same year the clearing was completed, and the cost of production per acre was as follows:

First plowing the land in April	$2 00
Dragging and hauling off roots	1 00
Burning and hauling 125 bus. shell lime.	3 50
Second plowing done in June, and dragging	2 50
5 bus. seed potatoes planted, at 75 cts..	3 75
Two workings and hoeings	8 00
Digging, per acre	4 00
Bagging and hauling to landing,	1 00
Board of hands	7 50
	$33 25

Wood sold, per acre, 5 cords, at $3.00.	$15 00
Large Potatoes, 100 bus. at 78 cts	78 00
Small Potatoes 15 bus. at 40 cents	6 00
	$99 00

The cost of clearing was $31.50, and that of potato culture $33.25, making $64.75, which, from $99.00, the production of one acre, leaves us $34.25 net gain the first year on one acre of land cleared. Much of the wood, I may state, was burned on the land to get it out of

the way. I consider it a great mistake to leave new land idle, so the second year I planted early potatoes in March.

EXPENSES PER ACRE.

Plowing, dragging and crossing.....	$2 50
7 bushels seed potatoes, at 75 cts.....	5 25
Cutting and planting, $1.00, guano 300 lbs., at 2½ cts per lb. $7.50....	8 50
Two workings, $5.00, digging, $4.50..	9 50
Shipping $1; hands' board, all told, $6..	7 00
	$32 75

PRODUCTS.

80 bushels large potatoes, at 60 cts.....	$48 00
10 " small " " 30 "	3 00
	$51 00

Which, less $32.75, cost of production, leaves $18.25 net gain. After harvesting my crop of potatoes I seeded this land in turnips.

ESTIMATE PER ACRE.

Plowing and cleaning land.....	$4 50
Planting $2.00, working and thinning $3.00.....	5 00
Cultivating.....	50
Harvesting, $3.50, shipping, $1.25.....	4 75
200 lbs. S. C. Bone, dissolved.....	3 50
Seed 50 cts., hands' board, $6.00.....	6 50
	$24 75

Produced 300 bushels turnips, at 40 cts., $120.00, less $24.75, cost of production, leaves $95.25 net gain.

The third year I sowed oats to get the land in grass. Expenses per acre as follows:

Plowing, $1.00; seed, $1.00.....	$2 00
Harvesting and threshing.....	3 60
Shipping, 50 cts.; hands' board, $2.00..	2 50
	$8 10

The produce was 30 bus. oats, at 45 cts.	$13 50
One ton straw.....	12 00
	$25 50

Which, less $8.10, the cost of production, left $17.40 net profit.

Now let us sum up: My detached and scrubby wood land, at the end of the third year has cleared itself of the cost of grubbing, and netted besides, the first year, $34.25; the second, $18.25 and $95.25, amounting to $113.50; and the third, $17.40, making a total profit of $165.15. Does this pay? EDW. B. EMORY.

Queen Anne's Co., Md., Dec., 1872.

BUCKWHEAT AND FIELD PEAS AS FERTILIZERS.—Reading the answers of Geo. C. Gilmer, in the *American Farmer*, to questions regarding buckwheat as a fertilizer, we feel called on to give our experience in this matter. That buckwheat and peas, especially the latter, are valuable agents to enrich the soil is a fact too well established as to be doubted by any tiller of the soil who ever undertook to try it. But the great question, "which is the most profitable way to do it?" is yet open. There are three methods: 1. To turn under the crop when the seeds commence to mature. 2. To feed the crop off by hogs; and 2d. To harvest the crop, and turn under the stubble *immediately* after the cutting, placing the crops in close rows to allow the ploughing. We have tried all these different ways on different soils, and come to the following conclusions: Turning under the full crop appears most beneficial on heavy, close soil, as it tends to loosen it and make it accessible to the influence of the air. On sandy or loose soil we have found no greater advantage by turning under the full crop than by feeding it off with hogs. On the contrary, the tramping of the soil by the hogs, and the scattering of their manure and urine with the remnants of the crop left on the ground, appeared to improve the soil to a greater extent than where the full crop was turned in. The harvesting of the crop and immediate ploughing of the stubble has, in most instances, on porous soil, had the same effect as when the full crop was turned under. This apparent contradiction can, in my opinion, only be accounted for by the fact that the fertilizing power of buckwheat and peas principally consists in their power to attract and assimilate fertilizers from the air, to retain moisture in the ground, enrich it by their decaying leaves, and protecting the soil from excessive heat. All these facts taken into consideration, we have come to the conclusion that feeding the crop on the spot to hogs is the most profitable, both to the pocket as well as to the soil. Only where the soil is very tenacious, we would recommend the turning under of the full crops. We advance these views backed by our own experience, but not considering them infallible, we would be glad to hear from others who have given their attention to this subject.

New Orleans, La., Dec., 1872. L. A. HANSEN.

FARM NOTES.—A correspondent of the *American Farmer* sends us the following:—A part of the "far field" was ploughed two inches deeper than the rest, getting some 2½ inches of the yellow sub-soil, but in other respects treated the same. The difference in favor of the deeper ploughed was about a barrel to the acre.

We have found it best not only to use four hills tied together as the frame work for a shock of corn, but also *two* bands in tying it up; it keeps better in all respects, and is not so apt to fall down or spread open, if heavy. I have used a hand rake in getting up the loose fodder about the shocks broken in the pulling off, and think it pays.

We seeded our corn grounds in wheat this fall, and sometimes finding it wet and muddy, we put off the hauling until the ground was frozen in the morning, hauling the fodder first, giving the heaps time to dry off, but never leaving more than a day's or part of a day's pulling off, out at a time.

We harrowed our corn ground before we sowed the wheat, or the manure to shovel in, and so loosened the stones upon the surface;

these we picked up after the harrow and double shovels, before rolling, and piled them under the shocks, as we had neither time or force to haul them off. They have not been in the way of the pulled off corn, and I hope before spring to get them on the road.

I am known at home as "the stone picker," but why should we work the stone, or try to do so, some five times a year, in the average, ploughing them down and harrowing and cultivating them up again, or picking up, if any at all, only those we cannot roll in the ground during a wet spell in the spring? Why top-dress them in fall or winter, where we might have grass, or why haul them on a dry knoll, *or dump them in a wet place, where some neater farmer will dig them out and haul them off?* Let a man see, feel, and calculate the difference: we lose from a half ton or more hay per acre, because the stone are not picked up, and how does a scythe feel after a good hard stone has passed along it, or how does the mower look? So I hereby declare war against the stones! H. K.

Report of Committee on Ploughing,

[*Made to Gunpowder, (Balto. co.,) Agricultural Club, Dec. 7th*, 1872.]

Reported for the American Farmer.

The committee appointed to assume charge of the Plowing Match projected by you some months since, herewith submit their report. They think they have ground to congratulate the Club on the propitious circumstances which attended the trial. The number of plows on exhibition exceeded twenty, most of which showed in their construction excellent material and a high degree of mechanical skill and workmanship. The interest manifested by the farming public in general, was demonstrated by a large attendance. The weather, moreover, could not have been more favorable.

Your committee entered and tried fifteen plows, but regret to have to state that the time allotted to the trial was not sufficient for a conclusive test. As far as they had opportunity of judging, they consider the King Plow, (Taylor Manufacturing Co.,) Woodcock, (Davis,) Empire, letter C, (A. G. Mott,) Bendersville Self-Sharpening, (Jno. A. Wiesman,) and the Iron Centre Steel Plow, (Griffith, Baker & Bryan,) all three-horse plows, admirably suited to the requirements of our soils and section; nearly all the two-horse plows tested did fine work, considering that they are ill-adapted to a stiff, heavy soil—the kind in which they were required to operate. Two horse plows are, however, not the preference of our locality. An Iron Beam Hill-side Plow, (A. G. Mott,) gotten up with great ingenuity, they feel safe in recommending highly to all persons having hilly land. It works equally well on level land, and in this respect possesses an advantage over all hill-side plows heretofore in use. It attracted conspicuously the attention and notice of all spectators. A Subsoil Plow, (Sinclair & Co.,) the committee recommend for all stiff sub-soils; on such they believe it to be of great advantage. A number of Davis drags were entered, but for want of time were not put into operation. The committee, however, are familiar with their action, and can recommend them to the farming public. By the same manufacturers, were likewise exhibited cast steel double and single Shovel Plows, with cast points; they will do better work by far than any other shovel plows in use with us. No farmer should be without them.

A Corn Sheller, (Griffith, Baker & Bryan,) performed in a superior manner. It shelled damp, new corn, with a facility which surprised your committee. A Burdick's Cutter, (Taylor Manufacturing Co.,) tried with fodder and hay, did its work well.

A Dexter Washing Machine, (Griffith, Baker & Bryan,) was found to do its work admirably. Respectfully submitted.

JNO. D. MATTHEWS, JOSEPH BOSLEY,
SAML. M. PRICE, D. GORSUCH,
I. M. PRICE.

ITEMS FROM A FARMER'S NOTE BOOK.—At a debate during the fair at Elmira, Harris Lewis, of Herkimer county, said that lucerne is the best of all soiling plants on land adapted to it. Its large, long roots run very deep in its favorite soil—a sandy loam—drawing nourishment from plant food that has sunk deep in the soil as well as feeding on the soluble mineral found there. It grows very fast, and if well manured bears frequent cutting. He says there is a piece of lucerne in Oneida county which has grown 108 inches in one season. It is well relished by all stock animals and may be cut four times in a season, giving two feet or more at each cutting. Like clover, it enriches the land on which it grows, both by the plant food it brings up from the subsoil and from the nitrogen it collects from the atmosphere. Professor Ville says that an acre of lucerne collects more than 300 pounds of nitrogen from the atmosphere.

Next to lucerne Mr. Lewis prefers orchard grass, which should be sown on well-drained, rich land, rising three bushels of seed per acre, and sown in the fall. After the first year it may be cut twice, and after that four times if top dressed with well-rotted manure. It should be cut before it blossoms, and your second cutting will be earlier than sowed corn. The first cutting will be dried grass, not hay, but capital for soiling. Mr. Harris is much in favor of soiling cows for dairy purposes in connection with pasturage, and as an aid to pasturage in time of drought. He thinks corn sown for fodder to soil cows is not as profitable as orchard grass. But it takes time to establish a meadow of orchard grass, and much manure is necessary to produce the three or four crops, each two feet high, in a season; hence corn for fodder may sometimes be substituted.

The American Farmer
AND
RURAL REGISTER.

PUBLISHED ON THE FIRST OF EVERY MONTH
By SAML. SANDS & SON,

No. 9 North street, near Baltimore street, Baltimore, Md. (sign of the Golden Plow.)

SAML. SANDS,
WM. B. SANDS, } Editors and Proprietors.

TERMS—$1.50 per annum in advance; 5 copies for $5; 11 copies for $10. See Premium List for larger number of copies.

Advertisements payable in advance, except those continued for a year or an indefinite period, which will be payable quarterly.

1	Square of 10 lines or less, each insertion			$1 50
1	Page 12 months			120 00
1	"	6	"	75 00
½	"	12	"	70 00
½	"	6	"	40 00
1	"	Single insertion		20 00
Each subsequent insertion, not exceeding four.				15 00
½ Page, single insertion				12 00
Each subsequent insertion, not exceeding four.				8 00

Advertisements on cover subject to special contract.

BALTIMORE, MD., JANUARY 1, 1873.

"Our New Volume."

How often have we penned these words! How many, many years have passed by since the writer first took the helm of the "*old Pioneer*" of Agricultural literature! It is not often that we feel a sadness coming over us, but when we reflect upon the number who were our cotemporaries almost from the beginning of our career, with whom we often took counsel, and upon whose superior judgment we had frequent occasion to rely, in the discussion of important matters connected with the mission of our journal, but who have since passed away, we hope to an eternal reward, we cannot but hesitate as our pen traces these lines, whilst we pay in our inmost heart a sincere tribute to their worth. Whilst so many of these worthies have left this scene of action, we are still spared in the land of the living, and are yet found in the harness, laboring in the same great cause which, day and night, for more than the third of a century—a computed generation of the sons of men—has received our earnest attention; and, perhaps, during the entire period we have thus devoted our time and energies to the interests of Agriculture, never has there been so great a need for laborers in the vineyard as at the present time. The unfortunate circumstances connected with the last decade, have sadly changed the fortunes of many who are still left in our midst, and who require all the aid and encouragement which can be afforded in the work of rebuilding their shattered fortunes. It shall be our province in the future, as it has been in the past, with whatever ability and opportunities we may enjoy, to be found foremost in the work required to accomplish the end in view. 'Tis true, there are many co-laborers in the same field with ourselves, and we can truly say, there never have been greater talents and more indomitable spirit evinced than are now displayed in the agricultural press of the country, in the great work of restoring the waste places, and re-establishing upon a firm foundation the fortunes of our people. We can only promise that we will endeavor to do our part in the work of renovation, so long as our now extended term of life shall last, when we hope to leave the old *Farmer* in still better hands.

As we remarked in our last, we have no promises to make other than that in the future we shall be guided by the same rules of action, and the same principles, which have in the past marked our course. We *know* that our old friends will not hesitate to give us due credit for our sincerity in the conscientious discharge of the duties committed to our care, and our *new* ones of the later generation, will find in us, we hope, a true and trusty counsellor, and we have little doubt that in the due course of time we will have them, as before were the fathers of many of them, attached to us as with hooks of steel.

In regard to the business projects and plans for the year now dawning upon us, we have before expatiated at length, and we submit it to our present readers to decide what amount of assistance they are able or willing to render in the extension of our circulation. We feel confident that we are in a position which enables us to be of service in the present emergency, and we leave it to those for whose interests we are devoting the latest energies of our life, to determine what aid we are entitled to at their hands in the prosecution of our work.

TYPOGRAPHY OF THE FARMER.—Our readers will not fail to notice, we think, the improvement in the appearance of the *Farmer*. Its mechanical execution does great credit to the taste and intelligence shown in the office of Mr. James Young, whence it is issued.

OUR PREMIUMS.

We call special attention to our liberal list of premiums for subscribers to the *Farmer*. Every taste will find included in it articles to please, and almost any neighborhood will, if properly canvassed, give names enough to secure one of the valuable prizes we offer. An examination will show that the schedule is a very generous one, and enterprising persons can readily secure one or more of the handsome and useful articles offered. Ladies as well as gentlemen can avail of our terms, some of the selections having been made with reference to their tastes. During the past year we were favored, in the way of clubs, by some fair canvassers, and think the *Farmer* will be still further so honored the present year, as witness the following extract from a letter of an esteemed correspondent in N. C.: "My niece is making up a club for the *Farmer*, and I have put in my name for 1873. I cannot get along at all without it." The offer of various special premiums already made for the coming volume still holds good.

A Request to Our Friends.

In almost every county, or indeed in every neighborhood, there is some one whose duty requires him to travel about, and to circulate among the agricultural classes. Will not our friends, whenever they can do so, suggest to such individuals the profit they might frequently make by canvassing for subscribers to the *American Farmer* in their respective localities, and endeavor to enlist them in behalf of our journal. We should be glad to be favored with the names of such persons in various sections, that we may ourselves address them upon the subject.

Thoroughbred Male Animals for Premiums.

The opportunity we offer for the improvement of the stock of any neighborhood in the presentation of pure male animals as premiums for clubs of subscribers to the *American Farmer*, is one worthy of being embraced by enterprising farmers' clubs or county societies. The plan is one long since adopted by us, and with the most gratifying results.

We can give the assurance in advance that the animals selected will be from the herds and flocks of our best known and most reliable breeders, who, we know, appreciating the importance of our offer, will liberally furnish us animals more than fully up to the intrinsic value of those designated in our list. A farmers' club in any district, by a little effort of its members can secure a fine young bull of the most approved breed for the purposes of their section. All that is wanted is a little concert of action and a little *push*. Try it, friends!

In this connection we give from a late issue of the new, but ably conducted "*Rural Sun*," published at Nashville, Tenn., an extract from a letter of its correspondent in East Tennessee, which will show how wide spread and beneficial have been the results of one such premium awarded some years ago by the present senior editor of the *Farmer*:

"In the last few days I have had occasion to look after the milk stock around Knoxville, and I was astonished at the number of good milkers running at large on the commons. The more so as "the cow disease" has visited Knoxville for several years past. I notice a marked family likeness among the cows and a general prevalence of yellow skin, small heads and limbs. Upon inquiry I find that about the beginning of the war Col. C. W. Charlton, the energetic and enthusiastic Secretary of the Division Fair, obtained a thorough-bred Jersey bull and a Jersey-Ayrshire heifer, as premiums for the largest club of subscribers to the *American Farmer*, of Baltimore. His bull was allowed, during the war, to run at large on the commons, and he and his descendants have marked the cows of today with some of the Jersey features. Here, then, is the foundation for a splendid lot of dairy cows, and the right steps are being taken to secure them. Already a Jersey Club exists, owning one of the finest bulls to be found in the United States."

Farmers and Planters' Agency.

We call attention to the advertisement offering our services to our friends for the purchase of all kinds of LIVE STOCK, AGRICULTURAL IMPLEMENTS and MACHINERY, MANURES of every description to be found in our market—in a word, we are prepared to purchase for those who have no commission merchant in our city any article required for the farm or plantation, or for the family, and will use our best judgment in the selection, for the interest of our friends. As we are directly interested in no article made or sold, but operate solely as agents, our friends may rely on our acting entirely for their interest, charging a moderate commission to either buyer or seller, as circumstances may require.

LIST OF PREMIUMS

Offered for subscribers to the *American Farmer* for 1873. The subscriptions can either be sent at the regular rate of $1.50 each, or at the club rate of $1 each. The table shows the number of names required at each rate for the respective articles named.

No.	ARTICLES, VIZ:	Value of Premium.	No. Subscribers at $1.50	No. Subscribers at $1.00
1.	Beckwith Sewing Machine	$10 00	12	40
2.	Bickford Knitting Machine	25 00	30	90
3.	Florence Sewing Machine	55 00	75	150
4.	Grover & Baker Sewing Machine	55 00	75	150
5.	A collection of Flower or Garden Seeds, or an assortment of Plants and Vines of same value	5 00	10	20
6.	A $10 collection of Seeds, or of Plants and Vines	10 00	20	40
7.	A $20 assortment of Seeds or Plants or Trees, *your own selection*, from any of our advertisers	20 00	40	80
8.	Sinclaire Straw and Fodder Cutter	25 00	40	100
9.	Buckeye Mower	110 00	150	400
10.	Kirby Self-Rake Reaper	160 00	200	500
11.	Woods Self-Rake Reaper, with *Mowing* Attachment	190 00	250	650
12.	A pure bred Cotswold, Southdown or Shropshire-down Ram	40 00	80	120
13.	A thoroughbred Jersey, Ayrshire, or Devon bull calf	75 00	100	150
14.	A thoroughbred Short-Horn bull calf	100 00	150	225
15.	A pair of pure bred Essex or Berkshire pigs	40 00	80	120
16.	A pair of Chester White pigs	30 00	60	90
17.	Silver-Plated Revolving Butter Cooler	10 00	20	40
18.	Silver-Plated Breakfast Castor	8 00	15	30
19.	Set of Dessert Knives, ivory handles	6 00	12	25
20.	Superior quality Carving Knife, Fork and Steel	5 00	10	20
21.	Silver-Plated Pie Knife	4 00	8	16
22.	Gentleman's Gold Pen and Silver Case	3 00	6	12
23.	Solid Silver Fruit Knife	2 00	4	10
24.	Silver-Plated Cream Ladle	1 00	2	8
25.	One year's subscription to the American Farmer	1 50		10
26.	Champion Mower and Reaper	300 00	200	675
27.	Hill's Archimedean Lawn Mower	25 00	40	60
28.	American Gold Hunting-Case Watch	56 00	160	200
29.	American Silver Hunting-Case Watch	35 00	60	120
30.	American Cyclopedia	80 00	100	250
31.	Webster's Unabridged Dictionary	12 00	20	40
32.	Webster's National Dictionary	6 00	12	25
33.	Silver-Plated Ice Pitcher	15 00	25	50
34.	Silver-Plated Cake Basket	12 00	20	40
35.	Silver-Plated Fruit Dish	10 00	20	40
36.	One doz. Silver-Plated Teaspoons	6 00	12	25
37.	One doz. Silver-Plated Tablespoons (extra quality)	12 00	20	40
38.	One doz. Silver-Plated Table Forks (extra quality)	12 00	20	40
39.	Child's Cup	3 00	6	12

NOTE.—For any premium in this list, we can substitute, if desired, any agricultural implement for sale by any of our advertisers, agricultural or other books, nursery stock, &c., &c., of the same value as the offered premium.

☞Subscribers need not all be at one post office, nor is it necessary for the names to be all sent at once.

☞Send the exact money with each list of names, and state in each letter that you are working for a premium.

☞This offer of premiums holds good till March 31st, 1873, but any premium will be sent upon demand, as soon as the proper number of names is received, with the money, to entitle the sender to the premium designated, but no name will count unless the money for it is paid by or before the date the premium is claimed. There is no competition. Every one gets what he has worked for, and may make his own selection.

☞Both old and new subscribers count in these lists.

☞All new subscribers whose names are received before January 1st, will receive three numbers of this volume FREE.

☞Specimen numbers, blanks, posters, &c. furnished on application.

☞REMIT ALWAYS, when possible, by registered letter, post-office order or draft.

☞A subscriber in Halifax co., N. C., writes us for a missing number, and says that it is a wonder he has done so well, as he is in the habit of loaning out his copies to his neighbors, some of whom like the paper so well that they have sent on their names for the new volume. The kindly feeling evinced in the remarks of our friend will excuse us for publishing the following extract from his letter, dated 6th Dec., and we hope his proposition will be generally adopted: "I have contributed some little this year, and will try again the next if life and health continue with us. And now I make this proposition, that every subscriber send one new one at least, (more if he can,) which will double your list. You can count on me as heading the list. Another year will soon be upon us (who are living,) with all its duties, trials, responsibilities, joys and sorrows; let us try to be prepared for all, as far as we can. I rejoiced to see in a late number your continued good health and vitality. When you lay down your pen for the last time, may it be yours to dream in gladness of your well spent life, and may your mantle fall on your son, and his be a life and exit of the same usefulness, honor and bliss. Respectfully and truly, yours."

Another friend, in South Carolina, adopts the same idea and practice as is contained in the above, and adds: "If every one of your subscribers could be made to feel the essential truth of what was enforced in the communication of *Spectator*, in your last number, you would have little occasion to urge your claims on public favor."

Another, in Va., sending an enlarged club for '73, says: "I am much pleased with the *Farmer*, and hope the farmers generally are,

and that they will give you the proof by coming to your aid and greatly increasing the number of subscribers."

These are given as specimens of numerous tokens of kindness and good feeling towards us and our journal.

Renewals—Notice to Clubs.

We are much gratified at the promptness with which many single subscribers and clubs are renewing for 1873, and especially at the enlarged lists coming with the latter. We send this No. of the *Farmer* to some clubs which have not renewed. We hope they will take it as a reminder. To our friends who interested themselves last year in raising clubs for the paper, we prefer the request that, as far as possible, they will see to the renewals and extensions of their clubs. When this is inconvenient, will they not give their lists to some one who will attend to the matter? It is a matter of importance to us to have the renewals come in promptly, to determine the number of copies of our edition.

A Visit to Mount St. Mary's College.

We lately incidentally referred to the fact that, as a rule, merchants on becoming farmers, make good ones. We now have the opportunity of presenting an instance of a representative of the *clergy*, although without any practical knowledge of husbandry, proving himself an excellent and successful farmer. We refer to the Reverend *John McCloskey*, the President of Mount St. Mary's College, near Emmittsburg, in Frederick county, Md., a gentleman widely known as well for his scholarly abilities and amiable character as for his success as an educator and his skill as an agriculturist. We recently paid a visit to the venerable Catholic institution of learning over which he presides, and which is distinguished for the large number of graduates whom she has sent forth from her halls to become eminent, not only in the Church, but in all professions of life; and much of whose prosperity, if we err not, is due to the rare judgment with which the administration of her affairs has long been directed by our reverend friend, who, to the piety and fervor of the priest, seems to add the system and forethought of the merchant.

Mr. McCloskey nearly forty years ago became charged with the direction of the business matters of the College, including the management of the farm on which the institution is located. Although unaccustomed to, and inexperienced in, practical agriculture, he soon found upon examination that the farm instead of contributing to, was in reality a charge upon, the revenues of the College. Situated remote from any market towns, it was a matter of necessity that it should supply the large household enclosed within the College walls, with great quantities not only of breadstuffs, but of meat and milk, vegetables and fruits; and measures were immediately taken for the production of these articles at a proper economical cost. To enable him to do this, Mr. McCloskey is still prompt to indicate that he was largely indebted for example and counsel to Mr. James Gowen and our old *American Farmer*, in accordance with whose joint recommendations the improvement of the farm was directed.

The College farm is of a red soil, the original growth of timber being oak and hickory, and at the time indicated, the yield of wheat in this section was in many instances, insufficient to supply the farmers with bread for their families. It was at once determined to lime the land, this being an application then unknown in that region; and Mr. McCloskey received, in consequence of this innovation, the title of "the book farmer," and was pointed out as the young man who "was going to burn up the College farm with lime." Persevering in the course determined upon, beginning with doses of twenty-five bushels to the acre, he brought up the farm not only to produce fine crops of corn and hay, but greatly augmented yields of wheat.

The liming thus begun, has been renewed with each rotation, and the farm, by its use, with the aid of clover and the great quantity of barn-yard manure produced by the large herd of cattle kept, long since reached a high and profitable condition. It is now mainly in grass, the consumption of hay, by the numerous cattle still maintained, being very large. The old worm fences which disfigured the fields, have been replaced by neat ones of posts and rails; orchards and vineyards have been planted, and the farm bears an appearance of thrift and neatness unexcelled by any near it

Mr. McCloskey has long been a breeder of Short-Horn cattle, that race having been selected with a view to the production both of milk and beef, the large number of inmates of

the College requiring these essential articles in no insignificant quantities. The herd has, from time to time, received many valuable additions from that of Mr. Gowen, of Mount Airy, and latterly, to avoid close breeding, bulls have been purchased from well known breeders of New York and Kentucky. The cattle having been kept entirely for practical usefulness, and but few offered for sale, "fashionable" pedigrees have not been considered, and the milking strains, rather than the beef producing, have been adhered to. The aged bulls now in use are Lucius and Lord Pruitt; the former a very large animal of great depth and width of carcass, a mellow handler, red and roan in color, and now weighing over 2300 lbs.; the latter, red, 4 years old, of extraordinary length of body, very straight in the back, with fine loin and hind-quarters. The cows are kept with reference to their milking qualities, the produce of those remarkable in this respect being generally reserved. Several fine roans and reds were pointed out as coming from Mr. Gowen, and as fully bearing out the reputation his cattle possess. In another stable we saw a fine lot of one and two year old heifers, all promising and good looking. There are, we think, over 50 head of Short-Horns on the farm, besides a few Devons and Alderneys, and some crosses and grades.

In summer the cattle are fed very largely on corn-fodder, which is also cured for winter consumption, at which season it is cut and crushed, and, after being slightly moistened, has an addition of mill feed mixed with it. The cows are very fond of it, and the butter produced is excellent.

The manure from the stables is not allowed to accumulate, but as rapidly as may be, is at once drawn out and spread on the fields.

The dairy where the products of the cows is kept, is worthy of notice for its extent and convenience. Situated within one of the buildings, water from a fine spring in the mountain is conducted through troughs, where are placed the milk cans, which are wide and deep. The cream is churned every day, and the almost countless pats of butter, which we saw ready for consumption, seemed equal to the supply of a huge caravansary, and in quality, we know, were much superior to a great deal that reaches our city markets.

As before indicated, the demand for hay has induced the conversion of most of the farm into grass land, the saving of labor thereby being also very considerable. In the garden, large quantities of vegetables are raised for the use of the College family, and the vineyard has produced as much as 500 gallons of wine in a season—the Catawba grape flourishing on the mountain sides in entire exemption from disease. The farm comprises about 800 acres, some 350 of which, we believe, are cleared, the balance being mountain woodlands. That portion under cultivation, or in grass, is surpassed for productiveness and neat appearance by none in its vicinity, and everything shows the direction of an intelligent and practical head.

Cultivation of the Grasses.

In our last volume we had frequent occasion to introduce the subject of the utility and feasibility of a more general attention to the cultivation of clover, and of the grasses at the South, and we believe a ball has been set in motion which is likely to roll on until the planters of the South will have generally determined to make a trial of some of the varieties to which their attention has been directed. Among them we feel particularly anxious that the Lucerne, or French clover, sometimes called "Alfalfa," shall be tested, and in our April and May numbers of the last volume, we gave ample instructions as to its cultivation, and evidences of its great value. Many years ago, in one of his communications to this paper, Mr. Gowen spoke of this plant in the highest terms, and recently, after a long experience in its production, he reiterates his predilection for it as a most invaluable forage crop, by designating it as one entitled to the cognomen of "*cut and come again*," from the great quantity of food it produces, and the frequency with which it may be cut in a season.

The soil and climate of the South are peculiarly suited for this plant, being similar to that of France, the native home of Lucerne; and to show the estimation in which it is held in that country, we copy the following paragraph from a letter from Paris, found in one of our exchanges of the last month, from which it will be seen that not only is it valuable as a hay for stock, but for another great virtue, found also in the common clovers of our country, its use for turning in green as a preparation for a grain crop:

"Lucerne is in this country regarded as the 'Providential forage' plant, and exhibits a marvelous development when irrigated—a pro-

cess that France has much neglected. It is acknowledged that artificial grasses can be more profitably replaced by Lucerne. In Saxony this latter plant works wonders on light soils, when plowed in green as a preparation for a grain crop. French farmers adopt the same plan; they sow about twelve pounds of Lucerne per acre with the barley in February, plowing down the Lucerne after the harvest, as preparation for winter wheat."

Whilst upon the subject, and to avoid republishing what we have heretofore said upon its cultivation, for the benefit of our new readers, we will here add a short paragraph which has just fallen under our eye in the *Prairie Farmer:*

"It was probably introduced into this country by Chancellor Livingston, of New York, who published his experiment with it in the years 1791–4. He estimated that it produced six and one-fifths tons per acre, the result of five cuttings. For almost a century its cultivation seems to have been nearly neglected in this country, but at the present time a new interest is awakened respecting it, particularly in California and in some of the Southern States. Alfalfa is sometimes sown broadcast, but ordinarily the plants would be extirpated by weeds and grass before they attained much size. It is ordinarily sown in drills, from one to two and a half feet apart, at the rate of eight or ten pounds to the acre. During the first season, the ground must be cultivated, both to destroy the weeds that may spring up and to forward the growth of the young plants. It may be lightly cropped the first year, more freely the second, but the plants do not reach perfection till the third year. After that it may be cut every month, and cured about the same as clover. To raise a good crop, the soil must be quite rich, and free from grass and weeds. It is tolerably hardy, but will not endure quite as much cold as clover. It does not do well on compact clay soils, or on light sandy ones, above a hard clay sub-soil, but prefers a loam, into which the roots can penetrate to a long distance. Alfalfa should be cut as soon as it commences to blossom. If cut much earlier than this, it cures with difficulty, and is not very nutritious; if much later, it is liable to be hard, and not relished by the cattle. It is much used for soiling, but its employment as a pasture plant growing broadcast seems to be confined to South American countries and to California."

Hungarian Grass.—During the last season, in consequence of the drought, many farmers prepared for the shortness of the hay crop which was threatened, by the substitution of various kinds of roots, and also by the introduction of grass seeds of rapid growth. Among these latter the Hungarian grass was very prominent, and, so far, our accounts all concur in the report of a great and satisfactory success, the yield being generally very large, and the quality such as to be very desirable, either for soiling purposes, or for curing for winter supplies. In a communication before us from the *Practical Farmer*, we have the recommendation of an old friend and correspondent in Pennsylvania, Mr. Chalkley Harvey, of the great value of the Hungarian grass. He has raised it for several years, and he says that—

"On one occasion he had been feeding his cattle for some time upon it, and after it was all gone, and they had to go back to common hay and fodder, there was a marked declension in their appearance, especially in the glossiness and smoothness of their coats. This he attributes in great measure to the large amount of oil contained in the seed. He stated that if two horses were taken alike in other respects, and one was fed all the good Hungarian hay he would eat, and the other had common hay, and 8 quarts per day of such oats as we commonly raise in Chester county, of latter time, that the horse fed on Hungarian alone would appear and thrive the best."

Another great consideration with this grass is, the *short time* it requires to mature the crop. An evidence of this is given by the correspondent alluded to above, who, in sixty-four days from time of sowing, harvested a crop, having a piece of ground of a deep, mellow soil, which, accurately measured, was found to be 1 1-16 of an acre. He gave it a good coat of barn-yard manure, and sowed the seed on 21st May, (1¼ bushels,) a nice shower of rain soon afterwards came on, and it grew luxuriantly, and on the 24th and 25th July he cut and cured over a ton of good dry hay, which he saved for winter use.

The Farmer Pays for All.—In one of a series of letters addressed by Hon. A. Bowie Davis, of Montgomery Co., Md., to the Governor of the District of Columbia, urging the importance to that District and the city of Washington of the proposed National Railroad to Harrisburg, Pa., we find the following allusion to the views entertained by the late Wm. Prescott Smith as to what constitutes the true basis of all the wealth and prosperity of a nation:

"He, more than any other railroad man with whom I ever conversed, comprehended and took hold of the great fundamental idea too often overlooked, namely, that the wealth of the world is created by the farmer, and that it is the true interest and duty of all who handle that wealth, whether as transporters

or distributors, to give to that much neglected interest (the farming) all possible encouragement, assistance and support."

This is a good text, from which a wholesome sermon might be preached to both legislators and transportation companies.

THE JAPAN PEA.—The agricultural editor of the Mobile Register thinks that this pea is undoubtedly one of the best things climatically secured to the South.

It is easily raised, will grow on almost any character of soil, yields enormously, and is entirely exempt from attack by either the pea or the bean weevil. As a food for man, we think it has no equal in the pea or bean line, and it makes a stock feed almost equal to corn. Hogs relish it and fatten upon it, and poultry of all kinds seem to want nothing better. Sown thickly upon the land it makes the very best of hay, and as a green feed, stock will eat it in preference to anything else.

Col. Jacques, of the Rural Carolinian, also speaks with enthusiasm upon the virtues of this pea, (which is said to be really more of a bean than a pea;) it grows on a strong bush, and hence requires no sticking, and as a food, is esteemed more wholesome than the common soup bean, and every Southern farmer ought to grow enough for his own use at least.

The peas are used both green and dry. When green, they may be cooked and served in the same way as "butter-beans," but require a longer time to boil. When dry, they must be soaked at least twelve hours before commencing to cook them; then boil in soft water (adding no salt at first) till properly done, which takes about three hours; or, still better, partly cook them by boiling, and then put them into a suitable deep pan, with a piece of meat, and bake after the fashion of Yankee "baked beans."

The Mexican bean has long been held in higher repute for making soup than most others of the legume family. Soup, when properly made from it, is by many thought to be equal to turtle soup.

SUMAC.—Phillips' *Southern Farmer*, noticing the meeting held at Fredericksburg, Va., the proceedings of which was noticed in our *Farmer* at the time, thus speaks of the feasibility of making this one of the crops suitable for the South, in the diversity recommended to the planters in connexion with their great staple, Cotton:

"Years ago we asked attention, believing we could in the South make sumac an article worthy consideration, and suggested it as a new staple. Mississippi can grow a better article than Virginia. We hope it will be looked into, carefully gathered, dried in the shade, and ground for the trade. We do not know anything of the manner best to grow, or cure, or grind; but we would, if young enough to experiment, try to sow seed, and perhaps get improvement in the variety. We hope our people will search out, so as not to depend or rely upon any one thing. Vary products, so when seasons be unfavorable, some one or other will be No. 1. The difficulty with Southern folk is they try for too much."

ALDERNEYS AND DEVONS.—We lately noted our having forwarded to Mr. Witherspoon, of South Carolina, a fine young Jersey bull, as a companion to a beautiful heifer of the same breed, which had been sent him a short time before. Mr. W. is much pleased with them both, and promises himself some good milkers from the bull and his Devon cows. He says:

"Some of my neighbors laugh at me for putting such a looking animal among my handsome Devons, but I am going for butter now, not beauty. I confess 'tis with a feeling of reluctance I introduced a bull other than the Devon in my herd.

I believe the first Devons brought into Maryland, if not into the United States, were a pair sent from England, by one of the nobility, a present to Mr. Skinner, the first editor of the American Farmer. My father bought the first calf the cow dropped, a very handsome bull, and he made his impress on all the cattle of our region. Since that my father and I brought out a number of bulls, all Devons, and I feel as if I were abandoning a traditional habit. I have been surprised of late to find what a general interest has been aroused in the Jersey cattle, and I have already had applications for calves.

I shall lend the volume [on the Jerseys, noticed in our last,] you so kindly sent me, to my friends, hoping thereby to induce others to send orders for more of this breed. Their docility makes them attractive; they seem to expect kindness and petting from every one.

I have a beautiful stand of clover and grass sown in October, and although on Saturday last the thermometer fell to 14° above zero from 40° the day before, my clover and grass looked as green as they do to-day with the thermometer at 62°. I was afraid so sudden and great a change would injure the tender plants.

I have no doubt whatever of our success with the grasses, and hope to give you a good account of mine next summer.

Rest assured in my allusion to "our age," I did not mean to intimate I had discovered any evidence of waning powers in your senior—and even if I had been so unfeeling as to do so cruel a thing, the vigor of his defence would have proved how little I knew what was in him."

Making Fertilizers.

In our last volume we gave various formulas for the making of a fertilizer; for the benefit of our new readers who prefer making such to purchasing any of the numerous commercial manures offered in the several markets of the country, we give below one which no doubt will be found valuable. A vast increase in the use of fertilizers is now realized, and we learn that the manufacturers of our city made very large sales last Fall of their respective commodities. From the demand upon our Agency for the purchase of chemicals, and the crude articles forming the bulk of a good fertilizer, we conclude that many farmers have manufactured their own supplies from formulas heretofore published.

In the Southern Cultivator, a correspondent of that paper says he has been using for the last two years the following with decidedly superior results, in comparison with several popular brands of commercial fertilizers. We give it for the benefit of our readers:

1. Fine stable manure, fresh from the stalls, 1200 lbs.; 2. Nitrate of Soda 40 lbs.; 3. Sulphate of Ammonia, 60 lbs.; 4. Common salt, half bushel; 5. Bone-dust, 1 bbl.; 6. Land Plaster, 1 bbl.; 7. Good oak ashes, 1 bbl.

Dissolve 2, 3 and 4 in a barrel of water, and sprinkle the solution over the stable manure, spread out eight or ten inches thick on a tight floor; work up thoroughly, say ten or fifteen minutes, with long-pronged iron rakes. Then spread again and add 5; mix a few minutes and again level the mass; add 6 and mix a little while longer; spread again and sprinkle on 7; a few minutes more mixing, and the compound may be shovelled into one corner of the house. After it has gone through a heat, which requires two or three weeks, it will be ready for use.

In making this compound, the first thing to be done, is to fill a barrel with water, if a ton is to be made; put in the salts and let one hand stir while others are getting the stable manure. It ought to be stirred ten or fifteen minutes. If convenient, warm water would facilitate the dissolving process.

If the guano house is near the stables, 3 hands can make 4 tons a day, manipulating a half ton at a time. The smaller the quantity, of course the more thoroughly it can be mixed. The compound that I made last winter, cost me $13.50 per ton, not including stable manure and ashes. Nitrate of soda cost in New York 4¾ cents, and Sulphate of Ammonia 7 cents per pound. In ordering ingredients, it is best for several farmers to combine together; and it should not be forgotten to order the chemicals marked and shipped as manure. Nitrate of soda looks very much like common salt, and may be readily mistaken for salt, both on account of appearance and weight. Sulphate of Ammonia is of a grayish color, and not so heavy as the soda. I mention this, recollecting that last winter several farmers were at a loss to know the one from the other, thus causing at first some confusion and inconvenience.

I have been somewhat particular in describing the method of making this artificial fertilizer, because the proper manipulation seems to be the chief difficulty with most planters. There are those among scientific men who object to the use of ashes in the mixture, but still there is high authority in favor of it. The practice is unmistakably good, be the theory sound or not. I use from 250 to 300 pounds per acre under cotton, in connection with 15 bushels of cotton seed, or with lot manure. I never apply any kind of concentrated fertilizer alone.

The New York price current of chemicals for November quotes these articles higher than here quoted. In this city, the price is for lots to farmers, Nitrate of Soda, 6a6½ cents, Sulphate of Ammonia, 8a8¼ cents.

Broom Corn.—In our last volume (July No.) we called attention to the cultivation of the Broom Corn, as one of the many productions of the earth that can be made to pay well at the South, and for which the soil and climate are well suited. We direct the attention of our old readers to the article alluded to, and for the benefit of any of our new ones who may wish to enter into the cultivation, we will in due time republish the material parts of it. We recur to the subject for the purpose of showing that this article, insignificant as it may at the first blush appear, is now regularly to be found in the prices current of our large cities, quoted as among the "staple articles" of trade—and the value of it may be inferred from the following, found in the general quotations of one of the leading dailies of New York:—

"*Broom Corn.*—In this staple article there was comparatively little activity, there being no improvement either in the demand for home consumption or shipment. The new crop is said to be light and of a poor quality, and prices continue to rule firm, with sales of common at $40a70 per ton; stock braid at $90a120, and green brush at $140a150."

We may as well here remark, that the land is prepared as for a common corn crop; and upon this in proper order, open a furrow with a shovel plough, (or a drill will be best, to save labor;) let the furrows be 3½ to 4 feet apart, according to the strength of the land,

then sow the seed in the drill, and follow with the plough to cover the seed. In other respects cultivate as for corn, keeping it clean of weeds. Land rich or highly manured will produce 1000 lbs. of the brush to the acre, beside the seed, which is equal to corn, with a little salt thrown upon it, for fattening hogs, and is highly relished by horses and cows; it will furnish more seed or grain than oats. We hope this product will attract more attention the coming season for planting. There are numerous manufactories for making the brooms in our city.

The Iowa Homestead says that "Mr. P. G. Wright, of Deep Creek, planted 140 acres of broom corn last year, the stalks of which were twenty feet high! and were well topped out. He had to break it down by machinery before cutting, and a recent heavy wind so tangled it that a sort of snow-plough, reaching forward of the horse, had to be rigged to make a path through. Some of the corn has been cut and dried for work, and produced 1600 pounds per acre—which, he informs us, is the heaviest crop on record. After harvest he goes in for making brooms."

STEAM PLOWING.—After the article on this subject on another page was in type we received from Messrs. *D Landreth & Son* a statement of the results of their experiments with the Williamson direct traction engine, from which the following extract is made. It will be seen that they have no doubt as to the economy on large plantations of steam plowing, and that their views agree with those we express as to its not being adapted to the tillage of small farms except by a system of co-operation. The testimony of the Messrs. Landreth as to the profitable use in cotton and rice culture of the traction engine and "breaker" is particularly worthy of attention:

"At first some difficulty was found in steering the engine, so as to have each furrow-swarth regularly and uniformly lap the preceding, but a little practice overcame the inclination to vary from the proper line. The gang of five or six ploughs, (five being principally used) are of steel, made by the Ames Plow Company, of Boston, and are affixed to an oblique rigid beam, so inclined as to cause each furrow slice to fall into its proper place, and with levers so adjusted as to run the ploughs to the desired depth, say eight inches, as in our trials, though a shallower or deeper depth may be adopted at pleasure. Each plough turns a slice of fourteen inches, and when five only are used the breadth simultaneously turned is nearly six feet. The speed usually exceeds that of mules or horses when engaged in ploughing, and we have, without difficulty, accomplished an acre an hour. With greater experience and proper facilities for supplying fuel and water, there is little room to doubt eight acres a day, with full allowance for detentions and stoppages, may be set down as an average result. Indeed, we hope, with increased practice, and the more thorough removal of obstructions to exceed that area.

It is not, however, from the ploughs that we look for the most important results, but from an implement, termed by the English a "breaker," which is simply a series of iron coulters or sub-soilers, so arranged on a frame as to cover a breadth of nine feet, which, as it offers less resistance than ploughs, moves with greater facility, and prepares many acres a day. This breaker is designed at one operation, to disintegrate and pulverize the surface soil, and also disturb the hard pan below—it may be months after it has been ploughed—and with a harrow attachment used simultaneously, leave the surface smooth and ready for seeding. Practical men can at once perceive the advantage of this process.

In our own culture, with five hundred or more acres to prepare for seeding, if possible betwixt the opening of Spring and first of May ensuing, it may be difficult to estimate its value, especially as we propose to execute the ploughing in Autumn, and early Winter—only using the breaker and harrow in Spring to lighten up and further disintegrate the soil. Such, it is certain, may be a profitable practice in the preparation of oat and corn lands, and also emphatically so with the exhausted cotton lands of the South, allowing the plant as it were, to revel in fresh pastures; and with an imperfect knowledge of rice culture, obtained by casual observation, we do not hesitate to say *the traction engine and breaker* is destined to recover our almost abandoned interest in that crop. Not only will cropping be thus facilitated, but if the experience of our English brethren be confirmed here, of which there can be no doubt, enlarged products will attend the more thorough tillage which steam power may enable us to practice.

We do not propose, on this occasion, to enter into details as to the relative cost of muscular, animal, and steam ploughing, but we may say, that if with steam eight acres a day can be counted on as an average day's ploughing, and twice that number with the breaker, there need be no question as to its economy on large plantations; nobody, it is presumed, imagines steam is adapted to the tillage of small farms, except through a system of co-operation among farmers.

It is hardly necessary to say that, in addition to ploughing, the Williamson steamer will be of great service in hauling farm produce and manure, threshing grain, sawing wood, grinding fertilizers, and in many similar employments, which the progressive farmer must adopt in self-defence.

DAVID LANDRETH & SON.

Bloomsdale, near Philadelphia, Dec. 1872."

THE GUNPOWDER FARMERS' CLUB PRIZE YIELD OF CORN.—This enterprising club gives a prize each year for the largest yield of corn on an acre raised by any one of its members. The largest crops of last year were raised by Messrs. Talbot T. Gorsuch, Joshua Gorsuch and Edwin Scott, measuring respectively 21 bbls., 7 bus. and 3 pecks; 20 bbls. 7 bus.; and 19 bbls., 3 bus., 3 pecks to the acre.

Mr. T. T. Gorsuch's test acre was a sod of three years' standing, part of which was ploughed four to five inches, and the remainder nine to ten inches deep; the land was heavily manured with barn-yard manure; the rows run four feet apart, and the corn planted from eighteen to twenty-two inches distant in the rows, about the middle of May. The corn was slightly covered with earth from the furrow, after which some surface soil that had been saved from the site of a new outbuilding, was hauled, and the hills given a moderate covering with it, after which a little more earth from the furrows was added. The corn had three workings; the first partially with the harrow, but finding it broke down the corn, the cultivator was substituted; the second working was with cultivators, and the third with double shovel plows. Replanting was done at first and second workings, and at the second the corn was thinned to two stalks in the hill. It was hoed at the second, and the steps between the corn were chopped with the hoe at the third working. Soon after the second working, 10 bushels of chicken manure were worked fine and well mixed with 2 bushels of plaster and 1 bushel salt, and the mixture was scattered lightly on the hills of about five-sixths of the acre. This application was too heavy, and it proved an injury rather than a benefit, the dry, hot weather causing the corn to fire.

Mr. Joshua Gorsuch's trial acre was part clay and part loam. It was manured from the barn-yard, and ploughed early in spring, the manure being turned under with 60 lbs. Peruvian guano added, and a top-dressing applied of "scrapings." The land was harrowed three times, and the stones taken off. Planted May 9th. About half the rows had a spoonful of ashes and plaster to the hill. As soon as the corn was up, the cultivator was run through the rows once. Then 25 rows were replanted in the hill, and on the rest of the acre the middles were split, making that portion of the hills eighteen inches instead of three feet apart, the rows being three and a half feet wide. The worms took the second planting. Ran the cultivator twice in the row and re-planted again, working next with the drag. Replanted once more the 22d June, and then ploughed twice with double shovel, giving them a last working with the cultivator, once in the row, the broad way. Husked out October 14th. We have no report of Mr. Scott's method of cultivation.

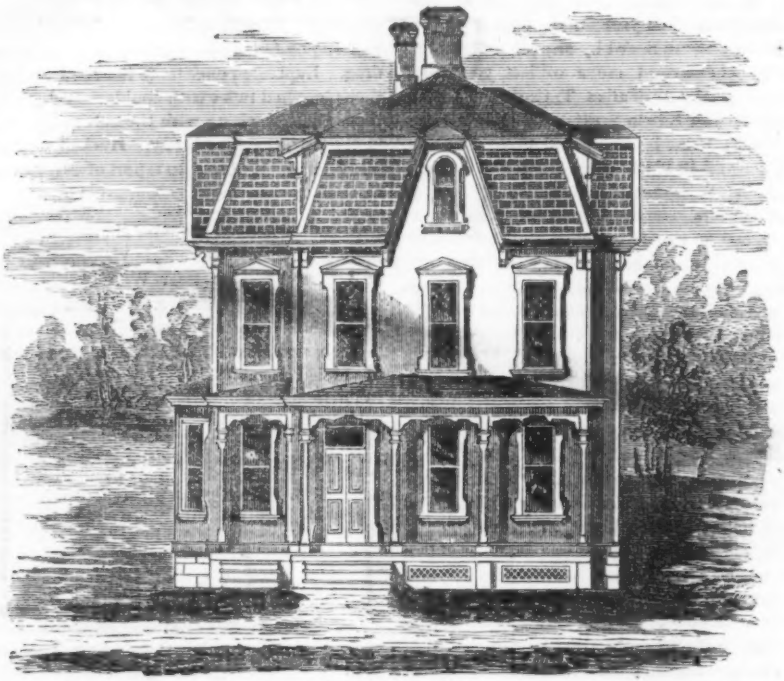
A committee of the Chester county, Pa., Agricultural Society, reports visiting the farm of Jefferson Shaner, near West Chester; the crop of corn of Mr. S. averaged from six acres 117 bushels to the acre, carefully measured in the cob, and allowing 72 lbs. to make a bushel of shelled corn.

There appeared to be no nubbins—all fine ears of the large cob variety known as Chester county corn, being well filled out to the very end, and with long deep grains. It was grown in hills four feet apart; and as an evidence that the corn crop often suffers from too thick planting, Mr. Shaner says that the stalks at the end of rows pretty generally had two ears, showing the benefit of access to light and air. From some experiments made, he rather favors the planting in rows five feet apart, and two grains in a hill 16 inches apart. The field where this crop was grown was six year old sod, on which the manure from the yard was spread in the spring and then ploughed down. The culture, of course, was clean and thorough.

A FINE SHORT-HORN BULL FOR N. C.—The yearling bull Monmouth, incidentally referred to in our account in the Dec. *Farmer* of a visit to Mr. Gowen's farm at Mount Airy, has recently been sold by us to Wm. Grimes, Esq., of Raleigh, N. C., who expresses himself much pleased with his purchase.

If ground bone is very fine, and 500 pounds or upwards to the acre—it would probably make a good crop of cotton the first year. It will "dissolve" quite slowly by itself, (requiring two or more years.) Mixed with strong stable manure, its solution would be hastened very much.—[150 pounds Peruvian or fish guano, with a barrel or two of wood ashes, and a bushel of salt, will secure a splendid crop, and the bone will leave the land in excellent order for future crops.—*Ed. A. F.*]

A number of Long Island farmers have undertaken to keep clean the gutters in parts of Brooklyn for the sake of fertilizing materials thus collected, doing the work without charge to the city.



FRONT ELEVATION.

AGRICULTURAL ITEMS.

REMARKABLE COTTON.—The Augusta, (Ga.) *Chronicle*, has this: "Dr. T. L. Anderson, of Washington, Ga., exhibited at our recent fair some very remarkable cotton, which took a premium and certificate of merit. It was planted on the 15th of May, and by the 20th of October it was all open and picked. The staple is long and silky, and stronger and fuller than any cotton brought to this market, and sold for a cent and an eighth over any other any other cotton—our merchants, without any exception, speaking of it in the highest terms. The limbs of this cotton, not averaging more than three inches long, and having less foliage than other varieties, with the fact of its rapid maturing, make it peculiarly adapted to rich bottom land, where it may be planted in three feet rows and ten inches apart in the drill, without danger of the bolls rotting or being caught by the frost. The bolls are larger—seventy-two of them weighing a full pound—and they grow out from the stalk and short branches, two, three and four at a place, more like chestnut burs than any cotton we ever saw before; and it has from four to ten locks of cotton to the boll. A single stalk of this cotton was discovered five years ago, and from this stalk, by carefully selecting the seed, the staple and yield has steadily improved, and it is confidently believed that this cotton will yield 50 per cent. more than any cotton planted in Georgia. There being but little foliage, the bolls large and growing in clusters, and the limbs short, enables a hand to pick nearly twice as much as of ordinary cotton."

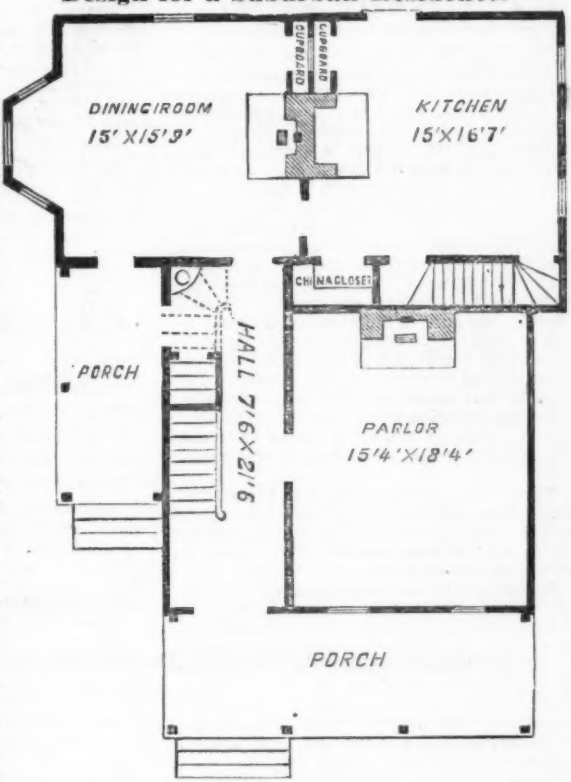
The Canton, (Miss.) *Mail*, says: "Mr. Carroll Smith planted and cultivated his own crop of cotton without aid, except during the hoeing season, and has realized as the result of his industry, thirty bales! During hoeing season he employed two hands to assist him in getting clear of the grass, and of course he had to have aid in picking out such a crop; but the entire cost of planting, cultivating and picking it out was only $450. He realized from the thirty bales an average of $80 a bale, amounting to $2,400. Deducting the $450 cost, we have the net result of $1,950."

Six establishments in New Orleans, with an aggregate capital of $1,500,000, are engaged in the manufacture of oil and oil-cake from cotton seed, the yield being 100,000 tons per annum. [This is a larger number than that stated in an article on the subject elsewhere.—*Ed. A. F.*]

Design for a Suburban Residence.

On the opposite page is the Front Elevation of a suburban or rural residence, the plan of the first floor of which is here given. The design, for which we are indebted to the Land and Law Advisor, Pittsburgh, is one of moderate accommodations, but with some claims to architectural expression, and combines the advantages of convenient arrangement, good taste and moderate cost.

A cellar extends under the whole house. The first floor, which is raised three feet above the grade line around the building, contains parlor, dining room, hall, kitchen, closets, front and back stairs, &c. There are porches on the front and side, and and the dining room has a fine large bay window. The first story is twelve feet high in the clear, the second eleven, and the attic ten.



FIRST FLOOR PLAN.

The second story contains two good sized chambers over the parlor and dining room, and two smaller rooms over the kitchen. There is also a small room over the front of the hall, which could be used as a bath room. Convenient closets are provided in all the rooms. The attic, or third story, is in the Mansard roof, and has three bed rooms, and large linen closets, &c.

The house is to be built of wood; the Mansard roof to be of slate or shingles, the flat roof, and the roofs of the bay window and porches, of tin. The cost of such a house will vary from $3500 to $4500, according to the materials used and the workmanship put on it. The timbers in too many frame houses are not sufficiently substantial, and in building, this error should be avoided.

A house like this, pleasantly situated, and painted, not glaring white, but in attractive neutral shades, properly contrasted, with appropriate surroundings of well arranged shrubbery and trees, and a neatly kept lawn, occasionally cut out to give accommodation for beds of bright flowers, would make a cheerful home.

Returns relating to immigration from Liverpool during the month of October has been issued. The number which sailed was 17,859. The nationality of the emigrants seems greatly changed, and, in point of numbers, the English have taken the place of the Irish. Thus, the 17,859 comprised 9,455 English, 205 Scotch, 1,635 Irish, and 6,154 other foreigners. The total emigration since January is 156,450, with about same rates.

The catalogue of fruits of the American Pomological Society gives a list of ninety-one varieties of pears, with their adaptation to different parts of the country. The Bartlett leads the list, with votes from thirty states and territories. Beurre d'Anjou comes next, with twenty-six votes; the Seckel third, with twenty-five votes. Flemish Beauty, Duchess d'Angouleme and Bloodgood stand nearly as high.

The Sheep Fold.

SHEEP ON POOR FARMS.—The impression is very prevalent that sheep upon pastures bite the grass so very close that they are therefore of injury to the field, but it is suggested that they can only bite close where the the pasture is short, and the pasture is short only on a farm that has been too much exhausted, and that in such cases there will be found an abundance of weeds, briars and brush in the fence corners, and sheep are the very best means by which these pests can be eradicated. The *American Agriculturist* recommends, under such circumstances, that a farmer who has $20 or upwards in cash (or credit for it, and then let him borrow the amount, if he has to pay one per cent. a month for the use of it,) invest it in as many ewes, not older than three years, as you can get for that money. Put them in the summer in such a field as we have described, and give them, in addition to what they can pick up, a pint of wheat bran and oat meal daily, with free access to water and salt.

They will first "go for" the briars, and clean them out; every portion of that field will be trodden over and over again, and the weeds will have no chance. Fold them on that field during winter, and carry to them feed sufficient to keep them thriving. Get the use of a good buck in season—Southdown would be preferable, and in the spring, if you have luck, (that means if you give them proper attention, and feed regularly,) you will raise more lambs than you have ewes. The money will be more than doubled, and the wool and manure will pay for their feed and interest. In the spring you may put that field in corn with the certainty of getting fifty per cent. increase of crop.

SILESIAN SHEEP.—Mr. Chamberlain, of Red Hook, N. Y., has a flock of 600 head of this breed of sheep. He has made six different importations from Prussia, where Field-Marshal Moltke, who is one of the most eminent breeders himself, has ordered a million of suits of military clothing, from the wool of this breed of sheep, for which it is believed to be better suited, and really more economical than the lower qualities, being more lasting, and because fine cloth, like the fine close wool on the sheep's back, turns the rain much better, enabling the soldier much longer to be exposed to rough weather without injury, coarse cloth from open, coarse wool getting soaked through in a very short time. Mr. Chamberlain has a steady demand for the increase of his flock, and has just sent off several lots to California, where they are being introduced by wholesale, a car load of them from New York to San Francisco having been recently delivered in sixteen days, under the personal charge of a shepherd of experience, whose services were procured with his last importation from Prussia.

SHROPSHIRE SHEEP.—A correspondent of the *Irish Farmer's Gazette* says of the Shropshire breed of sheep: "I beg to give the results of my experience. 1st. They will rear two and sometimes three lambs better than a new Leicestershire one. 2d. Their lambs are much hardier. 3d. When fat, the mutton is worth 1d. per pound more than the Leicesters, as there is always plenty of lean of a superior quality with the fat; and my rams cut from 9 to 11¼ pounds wool each. I put 90 Shropshire ewes to the ram last season, 8 of which brought me 3 lambs each, 4 brought 4 each, and one brought me 5 lambs—all live, healthy lambs; very few brought single lambs.

The Poultry Yard.

FOWLS.—Nothing pays better on a farm than a good stock of poultry, properly managed; with them everything is turned to account; not a kernel, wild seed or insect escapes their scrutinizing eyes. Their industrious claws are ever at work, uncovering, ready for appropriation, every hidden but consumable substance. Fowls must have free access to chalk or lime to form the shells of their eggs, and grit or gravel to grind the food in their gizzards. They luxuriate on grass, which is almost a necessity for them; in winter they love mangel and Swedes. They must have access to plenty of pure water. The quality of the eggs depends upon the quality of the food. They, like ourselves, like best shade in summer, and warm, sheltered corners in winter. They must have access to shelter in wet weather. Fowls will not be healthy long on the same ground or yard; the earth gets tainted. To prevent disease, salt your yards and their usual pasture once a year, say in autumn, when the winter rains will work it well in, and sweeten the surface.

Broods of chickens never do better with us than on the grass brows or patches abutting upon the growing crops, either of corn or pulse, into which they run either for insects or for shelter. The roof of the coops should be water tight, and the coop should often be moved, having only the natural ground for the floor. That natural ground soon becomes tainted, unless you move the coop. You can hardly make some people good managers of poultry if they lack observation and judgment.

Your male bird should be often changed—say every second year. He should be young and vigorous. Breeding in-and-in will not do any more than it will with animals. I consider winged game, poultry and birds, the farmer's friends.

My poultry have access at all times to my fields. Fowls are very useful in clearing off flies. I have often been amused at seeing their neat and quick manner of taking them from reposing bullocks, much to the comfort of the latter.—*Mr. Mechi.*

GAPES IN CHICKENS.—W. B. Tegetmeier, a well-known English writer on fowls, says: "The fatal disease caused by the presence of the gape-worm appears unusually prevalent. I have had it in my own runs, where it has attacked some Sebright bantams; but I have found no difficulty in curing it by the means of carbolic acid, which I first recommended for this purpose in the *Field* of last year. So potent are the fumes of this powerful remedy, and so destructive are they to parasitic life, that their inhalation for even a few moments seems perfectly effectual in destroying the life of the worm. It is not even necessary to employ any special apparatus; a few drops of carbolic acid may be placed in a spoon and held over the flame of a candle until the vapor is seen to rise, when the head of the young chicken or pheasant,(held in the other hand) may be placed in the vapor, which the animal is forced to inhale. Care must be taken not to carry on the process until the fowl as well as the worms are killed. I find after exposure to the fumes for a few seconds, the bird may be regarded as cured, and may be seen running about quite well on the following day; if not, the treatment should be repeated. The medicinal carbolic acid is preferable to the tarry liquid used for disinfecting sewers and drains."

The Dairy.

HOW MUCH MILK WILL MAKE A POUND OF BUTTER?—The following facts give a fair standard—rich milks, milk like that of well fed Jersey and Alderney cows will do better; and poor milk badly handled will do much worse.

The manager of a creamery in Onondaga county, New York, received 5,720 pounds of new milk on one evening of July, 1870, and the morning following. It was set in tin pails thirty hours, which stood in cold spring water down to 53 degrees; after which the milk was removed, and exposed to a free atmosphere for eighteen hours, to thicken and sour. The cream was removed and kept till the next day, when it was churned, and produced 232 pounds of butter. These figures show that it required 24.69 pounds of milk to produce one pound of butter. At that time cheese was worth 14 cents a pound, and ten pounds of milk made one of cheese. Hence butter must sell at about 35 cents a pound to pay as well as cheese at 14 cents.

The milk of 700 cows is worked into butter at Woodcock, Crawford county, Pa.; and the best return has been one pound of butter to twenty-three of milk. Mr. Green, the superintendent, has often compared the yield of sweet and sour cream, and uniformly found sour to give about 20 per cent. more than sweet. In one instance in Herkimer county 4,000 pounds of milk in a cheese factory was devoted to butter, and turned out 200 pounds —a yield of one of butter to 20 of milk.

We wish we could make every reader see the importance of producing first quality of butter, cheese and concentrated milk for foreign, as well as home consumption. Americans have a continent on which to raise cow feed with great economy, and in an unlimited quantity.

If a farmer takes (as he may) 75 pounds of water from 100 pounds of new milk, the 25 pounds of concentrated milk that remains is worth more than that weight of the best beef, and may be carried round the world in good order for a market. Every organized substance in milk is very healthy, nutritious food for man, diluted in pure water. A cow that drinks limestone water, like many in Tennessee, does not pass this hard mineral water into her milk. The salts of lime, magnesia and soda in much of the spring and branch water, daily swallowed by the bucketful by our cows, leave the system by the kidneys and bladder. Hence, any person who drinks milk, and especially sour milk, takes into his system water purer and more healthy than any that has passed through a limestone soil, or over calcareous rock into a spring, however clear and cold the water. The simple patriarchs subsisted largely on the milk of their herds and flocks; and they lived with few pains and diseases to a good old age.—*Nashville Union.*

DAIRY MANAGEMENT.—Dr. Nichols, of the *Boston Journal of Chemistry*, gives some very useful hints relative to the management of dairy cows, which are very timely at this inclement season. He says: "The extreme sensitiveness of the mammary functions in cows to the influence of cold, fatigue, excitement, unpleasant odors, etc., is indeed surprising. We have been greatly interested in observing the effect of cold upon the milk secretions as seen in the herd of cows upon the farm. During the past summer, in the hot days of July and August, the animals resorted to the lake to drink, and after slaking their thirst, they would wade into the water and remain sometimes an hour or two with the legs half immersed. This habit, it was found, invariably diminished the flow of milk at night, and in order to learn the extent of the diminution, careful observations were made. It was ascertained that standing in the water an hour diminished the flow to the amount of eight or ten quarts in a herd of thirteen cows. The loss was so great that whenever they resorted to the water they were driven away to the pasture again at once. The nature of the water supply, and the conveniences of access, are most important points in the management of milch cows. A draught of ice cold water, taken by a cow in winter, cuts short the milk yield for the day from one to two pints. The influence of a cold current of air, and cold drinking water upon cows in milk, is not of a transient nature; it extends for a longer period than a day or a week. Many fine animals are ruined by careless exposures every year, and self-interest and feelings of humanity should

prompt all cow owners to keep diligent watch over their welfare and comfort. The right man in charge of a herd of twenty cows, which have been badly managed, will in one month raise the lacteal products so that the increased cash returns will pay his wages. This is a statement which has been verified more than once."

The Apiary.

PROFITABLE BUSINESS FOR WOMEN.—One of the most profitable as well as interesting kinds of business for a woman is the care of bees. In a recent agricultural report it is stated that one lady bought four hives for ten dollars, and in five years she was offered one thousand five hundred dollars for her stock, and refused it as not enough. In addition to this increase of her capital, in one of these five years she sold twenty-two hives and four hundred and twenty pounds of honey. It is also stated that in five years one man, from six colonies of bees to start with, cleared eight thousand pounds of honey and one hundred and fifty-four colonies.

When properly instructed, almost any woman in the city, as easily as in the country, can manage bees, and make more profit than in any other method demanding so little time and labor. But in the modes ordinarily practiced few can make any great profit in this employment.

It is hoped a time is at hand when every woman will be trained to some employment by which she can secure to herself an independent home, and means to support a family in case she does not marry or is left a widow, with herself and family to support.

Mr. W. H. Watkins, of Henry county, Iowa, says he has kept bees for the last three years, and found them more profitable than any other stock on the farm. He gives figures which show that in 1869 his total expenditures amounted to $140, and total receipts to $440, leaving a clear profit of $280 the first year, or over 300 per cent. on the capital invested.

Mr. D. Bare, of Hubbleton, Wis., reports that in 1870 he obtained 850 pounds of surplus honey from 20 stocks, and increased them to 39 stocks. Capital invested $250; receipts $400.

Mr. C. R. Isham, of Livingston county, N. Y., says that from his apiary of less than 50 stocks, he obtained in 1870 over 2,600 pounds of good box honey, leaving an abundance of stores in the hives for the bees to winter on.

Mr. James Bray, also of New York, reports that in April, 1870, he bought four stocks of bees for $25, and obtained from all of them honey which sold for $150, increasing the four stocks to sixteen.

Mr. J. W. Hosmer, an eminent apiarian, of Minnesota, puts in his say for this season, which is, that he had taken out over six tons of honey from 150 stocks since the 1st of July, 1871, which, at 25 cents per pound, would bring $3,000—a very nice income.

Mr. Joseph H. Gisler, of St. Louis county, Mo., gave me authority to say that he had kept bees for the last six years, and found that they paid. His yield of honey averaged him about 7,000 pounds annually, which he dished out every Saturday at Union market, St. Louis, at an average price of thirty cents per pound.

Mr. M. Quinby, of New York, the pioneer of bee-keeping in this country, in a paper read before the Northeastern Bee-keepers' Association, at its last meeting, says that a young friend of his, who would vouch for what he (Quinby) said, obtained in 1870, from 300 stands of bees, 25,000 pounds of the best quality of box honey, which sold for a price averaging nearly thirty cents, amounting to over $7,000.

I might go on and recite facts like these for a week. The bee journals and agricultural press have been full of such instances for the last three or four years. Bees that are allowed to keep themselves, of course, cannot be expected to pay; as well might corn be made to pay by simply planting it.

The Va. and N. C. Farmers' Convention, Which assembled at Petersburg, Va., on 28th Nov., embraced about 100 members, including a number of the most intelligent farmers and planters. Maj. R. V. Gaines presided, who alluded in a few forcible remarks to the circumstances under which this adjourned session opened, and to the questions of organization, immigration, fertilizers, labor and taxation, that were to come up for consideration.

Col. E. Drumgoole presented an able report on the importance of the organization of a society formed on the basis contemplated in the plan proposed by the committee of which he was chairman.

Among other proceedings, a letter was read from Bern. Casserly, Superintendent of the Castle Garden N. Y. Commissioners of Emigration, informing the Convention that there were a large number of emigrants (single and families) desirous of obtaining employment.

Maj. Ragland, from the Committee on Tobacco, made a report; they state that, as a paying crop, none excels Tobacco in the region of country adapted to its growth and full development. Mr. Gaines recommends high manuring and thorough cultivation, and said that successful planters have discovered that the profits are exactly in proportion to the amount of labor, skill and manure applied. Maj. Ragland alluded to the large yield and high prices of Tobacco in Mass. and Conn., showing what heavy manuring and thorough culture will do, and advised that the example set by the planters in the States named should be followed—"plant less surface, manure higher, and cultivate better." The report of the committee approves of the views thus pre-

sented, and it adds that the lands have been injured and impoverished rather by injudicious rotations than from the abstraction of the elements of fertility by the crop; the committee believe that remunerating crops of Tobacco may be grown every three to five years, according to quality, with no appreciable diminution of fertility.

The committee allude to the effort to decrease the federal tax on Tobacco, and will co-operate in any movement in that direction —but evidently have little hope of success. They also propose to have repealed the State law which withholds from the producer eight pounds from each package of Tobacco inspected, and propose to send a committee to the legislature to ask that it be repealed, which they believe will be done. They also allude to the great dissatisfaction among the planters in regard to the inspection, warehousing and sale of Tobacco, and propose a large committee to advise upon the subject with the members of the legislature from the Tobacco districts, and suggest that the same committee might very properly treat with boards of trade, or other organizations of middle-men, about any reforms that may be deemed necessary in the rules and regulations of the trade affecting injuriously the sale of production. The committee also recommend that township and county agricultural clubs be formed all over the State, and that representatives from these unite with the committee appointed by this Convention, in efforts of reform and improvement in legislation, in the agricultural and other industrial interests of the State. The report concludes as follows: "It is a question no longer of expediency merely, but one of dire necessity—aye, of life and death—that, as producers, we must take care of our rights and interests. The plan for organization and co-operation for future action is the very best that suggests itself to your committee, and we recommend its adoption."

A note is appended to the report from R. M. Anderson, Esq., recommending to the Convention "the appointment of committees in every county—men to whom might be assigned experiments in agriculture—with instructions to report annually to the Convention. From these various reports facts could be established in one year, and an annual report made up from them and published, which would be valuable to every farmer."

Mr. Mechi, the great scientific farmer, sums up the results of the English harvest in the London *Times*. He says he is no alarmist, but he believes that England will have to pay for foreign corn, in quantity and price, £15,000,000 to £20,000,000 sterling more than in a good wheat season.

Palatka, Florida, tells of a negro man who has made nine bales Sea Island cotton, and one hundred and fifty bushels of corn. He bought his land on credit, has paid for it, and is now enjoying a handsome competency.

Horticulture.

Nurserymen—Advertising.

Messrs. Editors:—In addition to your recent able editorial remarks and other articles on the subject of planting and proper time of planting trees, I deem it important to state for the benefit of the young and inexperienced, that trees obtained from the North for spring planting almost invariably fail to make a stand, and if ordered in the autumn, (unless promptly shipped,) arrive too late for fall planting. 'Tis true, if the arrival is late, the trees can be trenched, placed in close order, the roots heavily earthed over, set out early the following spring, and if mulched, success will be the result. Judging by prices set forth in Northern catalogues, trees and plants (except, perhaps, evergreens,) can be purchased on as favorable terms as from the North, of the following nurserymen near Baltimore. The names given are reliable men, and stock as extensive and varied as other similar establishments in this country:

W. D. Brackenridge, Florist and Nurseryman, Govanstown P. O., Balto. co., Md.

R. Holliday & Son, Florists, Balto. city, Md.

Wm. Corse & Son, Nurserymen, Baltimore city, Md.

John Feast, Florist, Baltimore city, Md.

Saml. Feast & Sons, Florists, Baltimore city, Md.

In addition to these, floral establishments are to be found in the northwestern section of the city, and adjacent to all the prominent cemeteries.

In evidence of my assertion in reference to trees, I witnessed the planting of several thousand evergreen plants obtained from the North late last spring. They were carefully planted, and the majority shaded with pine boughs. In short, not a single plant survived.

A stranger looking over our agricultural and horticultural magazines, would form a very poor opinion of our stock of fruit and ornamental trees, shrubbery and green house plants. Why, Messrs. Editors, do not these *gentleman advertise?* PLOWMAN.

North Maryland.

[Our florists and nurserymen should imitate the enterprise of their brethren at the North, and more freely advertise their establishments, so that those wanting such productions will know where to send their orders.—*Eds. A. F.*]

Grafting & Planting Fruit Trees Again.

I did not think it would be necessary to again refer to the subject of grafting in connection with the remarks of P. Q. D. Might I ask that mythical individual who supplied him the information that I do *not* read my MSS.? I was not nor am I aware that tongue and whip grafting are one and the same thing.

No one questioned the authority of Mr. Downing, but if that gentleman does so term the two grafts here mentioned, I beg to differ slightly *from* him in nomenclature. My critic does not exhibit that profound practical knowledge of the subject which one was led to expect from the manner in which he threw down the gauntlet; he fairly begs the question by supposing that walnuts, oaks, hollies, &c., will succeed admirably when tongue grafted, and then says, he can not see what they have to do with the subject. Now any person having had charge of a first class nursery, knows that the grafting of ordinary nursery stock, apples, &c., is the merest rudiment of grafting, and that it requires practical skill to successfully graft the more difficult subjects. I am most intimately acquainted with many first class practical men, nurserymen and foresters "to the manor born," but have never heard one assert, nor even suppose the subject mentioned—and many not mentioned—would succeed admirably if tongue grafted. And I can assure P. Q. D. that not only your correspondent, but also many others will tender him most hearty thanks if he can demonstrate by actual results that the English walnut can so easily be engrafted upon our native black walnut.

As to shaping the scion for common grafting, I assure you, Messrs. Editors, that I have seen learners spoil more scions in tonguеing them, and in inserting the tongue of the scion in the stock than from all other causes combined. It just amounts to this: the *wood* will not unite, it matters not how we tongue, wedge or split; but if the *liber* of the scion be brought into contact with the *liber* or under bark of the stalk, and *be so kept* by binding, and *the air be excluded*—all other things being favorable, it will prove a success.

Let your youthful readers practice all they can, any method they may prefer. I know a farmer living within easy distance of this city, who has a fine young fruit orchard of his own grafting, and that too without tongueing a scion.

As to whatever of *bliss* there may be in grafting, I leave to P. Q. D. to discover, at the same time assuring him that there is considerable satisfaction in being able to do one's duty in one's profession, whatever it may be.

But as my critic justly observes, I am not a man of many words, I will therefore pass on to the subject of planting fruit trees, &c.

On pages 356–357, October number, P. Q. D. says: "Find the richest piece of land, the lightest and deepest soil, and there plant his dwarf trees; plant them deep; above the junction of the stalk and bud two inches; this will give the pear a chance to throw out roots. * * * You will in this way transform your dwarf tree into a low standard." On page 437, December number, he says: "Soils that are over rich and deep force the trees into such a luxuriant growth that its wood does not ripen well, and is liable to be killed by winter blight." Some years since this whole subject was worked threadbare in the British gardening periodicals, was had *pro* and *con* in every gardener's bothy in the United Kingdom. I simply refer to it here, that P. Q. D. may make it intelligible to your readers, for I know well that such contradictory statements are sorely puzzling to amateur orchardists. "Why go to foreign shores for your cases?" says my critic. I stated facts; facts, too, known to the whole horticultural world, and P. Q. D. is at perfect liberty to draw information from the Antipodes to controvert these facts, if he is able. I really feel amused at the stand he has taken in this matter. Is there a first-class agricultural periodical on this side of the Atlantic which does not draw largely for items upon its exchanges from the other side of the ocean?

I observe by your October number that Col. Wilkins speaks very favorably of the new variety of peaches originated by Mr. Thos. Rivers, of England, and has several hundred acres each of the Beatrice, Louise, and Early Rivers', some of the Colonel's trees having been imported direct from the nurseries of Mr. Rivers, Sawbridgeworth, England. "The climate of England is not the climate of America." Admitted. The man who cannot ripen the wood of his fruit trees under the August sun of Maryland would cut a sorry figure as head gardener in England. Again: "There are a thousand places where fruit trees may be seen growing the way he (I) don't advance." 'Tis true, and pity 'tis, 'tis true. I would be sorry indeed to advance anything in the way of the treatment of fruit trees, which I see at thousands of places. Having been striving during my whole life to obtain, as well from practice as from communication with men acknowledged to be authorities on such matters, a thorough knowledge of horticulture, I need hardly tell you that I am as anxious as any one of your readers can be to hear the opinions of practical men on the subject, but the appeal with which P. Q. D. closes his reply in the December number strikes me as being about the coolest thing I have ever heard in debate. After starting to teach your correspondent a thing or two, he backs down with an appeal to outsiders as to "some one who *knows*," for some light on the subject.

N. F. F.

Vegetable Garden—Work for Jan.

With us this month is mainly one of preparation of seeds, manures, hot-beds, tools, &c., though farther South planting is already commencing. The hardy vegetables, like parsnips, beets, carrots, radishes, onions, turnips, cabbage, spinach, &c., can be sown as soon as the soil is dry enough, and the atmosphere does not average a lower temperature than 45 degrees.

Seeds should be looked over, and all of uncertain character or doubtful age destroyed. Lists for the seedsmen should go forward in time to be filled before the busy season approaches when all wish to be served at once, and when some must be disappointed. It is worth

while to test seeds, both of your own saving and those purchased. Failing to do this may cause some disappointments, and the discovery of their worthlessness come too late to be remedied. As to varieties, hold on to proved sorts. Test some of the novelties, if so inclined, but put not your trust in seedsmen's pictures. In many cases "the old is better."

Hot-beds are to be gotten ready; the glass repaired, if broken; straw mats should be made ready, the earth properly prepared, and the frames painted. The beds are to be started earlier South than in this latitude, of course; the rule given by Henderson and other professional gardeners is to sow seed about six weeks before the probable time the plants can be set out.

Manure.—It should always be a special care that plenty of this, well rotted, is ready for the garden. See that in proper time a full supply is provided for the hot-beds.

Tools should be put in order, broken handles refitted, lost ones replaced; hoes and spades should be sharpened, lines examined, and everything made ready for work when the campaign opens.

Tomatoes.—An experienced gardener in the vicinity of Washington recently gave us his method of raising this vegetable, which he generally markets from two to three weeks earlier than any of his neighbors. He sows the seed about the 15th of January, in a hot-bed. Whenever the temperature will at all allow of it, he admits air, his rule being to keep as cool as possible during the day, but warm at night; this, he claims, producing not large, but stocky, mature plants. As soon as the bottom heat begins to perceptibly decline, he replants the tomatoes in a fresh bed, giving only about 25 plants to a sash, continuing the same hardening process. By the time the season comes for setting out in the ground, the vines generally have fruit on them as large as a hickory nut, and the exposure they have been accustomed to fits them to endure the change, and being carefully transplanted, they grow right ahead, and are fit for market much earlier than those sown in March or April, and are sold at from 50 to 75 cents per dozen. In the hot-beds first used, as soon as the tomatoes are removed, radishes are sown, the heat remaining being quite sufficient to quickly produce a crop of that more hardy vegetable.

SALT FOR PEAR TREES.—The result of an experiment is thus reported by a horticulturist: "Last spring I put a small shovelful of the refuse material from the salt works, which is composed, I believe, of salt, lime and ashes, around a four year old pear tree. It has made a very thrifty growth, and the leaves are all free from blight or spot, and have a very glossy, healthy look; while others of the same lot, manured with barn-yard manure, have grown but little, and the foliage is spotted and dull. Now, if no ill effect may be attributed to the barn-yard manure, it would seem that the difference in these trees was owing to the salt."

The Florist.

Floriculture, &c.—Jan., 1873.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

Some people are very precocious in their horticultural tendencies, taking hold of a spade, knife or rake, with which they scratch, almost as soon as they can be trusted out of their mother's sight; others again, when of age, take to it as a profession, in order that the results of their labor may be turned into dollars and cents. We do not wish to be deemed egotistic, but well it is remembered that before six years had rolled over our head, and before the A B C had been learned, that behind a wall in our father's barn-yard, we had Red Currants and Gooseberry bushes from slips or cuttings; and, to our idea, the first fruit they bore, no *Crown Bob* or White Smith could compare with in flavor. We feel a delicacy in letting it be known how we succeeded in our first trial of Turnip raising, the seed for which was appropriated for our experiment from the farm stock, but sown so thick, that in making their appearance, they raised the ground as if a *mole* had been under it in search of worms; our ambition being bigger than the knowledge possessed, we had to accept the situation as a failure. But I would here ask, who is it that sets himself up as an assistant to nature, even after many years practice, that does not suffer from failures? but no one should give up even after two or three misses, rather endeavor to find out the cause of disappointment, so that a remedy may be applied. It takes a broad range of knowledge to constitute a first class horticulturist; and, as a foundation to begin with, the novice should learn to read, write and cipher in his mother tongue, and if he adds to this a knowledge of Latin, he will find it very useful in helping to spell correctly and understand such botanical names as may come before him; and it makes one often feel sorry to think that "the schoolmaster has not been abroad," when we hear professional gardeners call Fuchsias "Coccineas;" and when the specific name "spectabilis" is applied to a plant, we keep looking to see where the specks or spots are; we say therefore, learn a little Latin, and study the natural system of botany, together with as much chemistry as will afford a knowledge of the constituent parts of the various kinds of earth cultivated or used; and farther, the plant cultivator must study nature, by keeping his eyes open as he takes his rambles through the forests, or down the meadow, dell and marsh, or over the rocky mountain and shelvy bank, so as to scan well how she brings forth her fair and noble products. Nevertheless plant culture is entirely artificial, and a gardener can be considered no more than an assistant to nature; yet to excel her, the appliances he uses must be under the guidance of science;

hence a gardener to be without knowledge it is not good.

We know of no profession in which such rapid advances have been made the last forty years, than that of horticulture; then there were not more than eight to ten reliable plant and tree nurseries in the United States; now they can be counted by the hundreds, so that where one or two plants were raised then, now hundreds of thousands are produced annually; old systems and things have become antiquated.

Our object in writing is not meant to enlighten the truly practical gardener, but rather to guide the amateur and novice in their efforts to excel in floral productions.

In the *greenhouse*, Azaleas which have received a little extra heat, with Camellias, Abutilons, Stevias, Eupatoriums, Poinsettias, Daphne odora, Bouvardias, Calla Lilies, Carnations, Epiphyllum truncatum, with many winter-blooming plants from the Cape of Good Hope and Australia, will afford a supply of flowers for decorating purposes during the holidays, as the practice of adorning both public and private places on festive occasions is now becoming commendably fashionable; but we think the taste displayed in making up both hand and table bouquets, admits of much improvement, as the mopish and shorn appearance effected by packing floret on floret upon a level, one with another, is to our eye anything but graceful, when compared with a bouquet composed of the same material where the flowers are arranged to project individually beyond the green by which they are separated and set off; and for this purpose a good green may be found in Rose Geranium leaves, or Tree Lycodium from the woods; if for the table, sprigs of Spruce, Cyprus, Boxwood and Periwinkle, adding a few dry grasses to give a little grace to the whole group.

All young Fuchsias and Geraniums, with other soft wooded plants, should be encouraged in their growth, by re-potting and keeping in a warm, light situation.

Many people keep those little gems, the Daisy and Heart's-Ease, in the greenhouse, but they do much better in a cold frame, in company with the sweet-scented Violets; a light, rich, friable, loamy soil suits all three, and during fine weather they should have light and air freely.

As a general rule, this is not a desirable time in which to shift old plants into larger pots; rather defer such work to the months of February and March; but if a stock of any given kind of hard wood plants is wanted, then we would set an old specimen or two of such in a warm place, so as to start it early into growth, as most plants of this character strike best from half-ripe wood in early spring. Should it be found that the pots containing Hyacinths and Tulips are now well filled with roots, then remove them from under the stage or cellar to the flower-stand or greenhouse, where they will receive heat and moisture; we grow Lilium Candidum in much the same way, only we pot the bulbs earlier in the fall.

Begonias are a very showy and interesting genus of plants, both for the singular form and beauty of their foliage, and free flowering character. These may now be re-potted, and where necessary dividing the roots of the herbaceous kind, observing to cut away all old or decayed pieces of the stock, the shrubby sorts requiring only a portion of the old earth removed from the ball during the operation. The pots should be well drained, and the earth used to be of a rich, sandy, vegetable nature, keeping them afterwards in a temperature of about 60°; they are all easily propagated by cuttings in a bed of moist sand; the herbaceous kind by the leaf, one leaf producing often from five to ten plants by simply cutting the stem one to two inches long, the end of which is inserted in the sand; then break or cut the mid and lateral ribs on the underside, one or two inches apart; after which, peg the whole leaf flat down on its back on the sand, and if the giving of heat, shade and moisture is properly attended to, each cut made, together with the end of the stem, will produce one or more plants. The tips of the shrubby kinds root freely, by being inserted in an erect position; all the sorts can also be raised easily from seeds.

Fire-heat creates a dry atmosphere in the greenhouse, and this is favorable to the production of thrips and red spider; a mixture of sulphur and a little saltpetre dissolved in water and applied by a syringe in clear weather to the plants infested, will soon clear out the pests. Tobacco smoke is the surest cure for the green fly; it is advisable to fumigate only in dull, cloudy weather.

Not much can be done in the flower gardens and pleasure grounds the present month, and as we intend giving a short chapter on planting and pruning in the February number, for the present we lay the pen aside.

W. D. B.

A True Lady.—I cannot forbear pointing out to you, my dearest child, said Lord Collingwood to his daughter, "the great advantages that will result from a temperate conduct and sweetness of manner to all people on all occasions. Never forget that you are a gentlewoman, and all your words and actions should make you gentle. I never heard your mother—your dear, good mother—say a harsh or hasty thing to any person in my life. Endeavor to imitate her. I am quick and hasty in my temper; but, my darling, it is a misfortune which, not having been sufficiently restrained in my youth, has caused me inexpressible pain. It has given me more trouble to subdue this impetuosity than anything I ever undertook."

The spirit of true religion breathes gentleness and affability; it is social, kind and cheerful; far removed from that gloomy, illiberal superstition and bigotry which cloud the brow, sour the temper, deject the spirit and impress moroseness on the manners.

The Fireside.

TIRED MOTHERS.

A little elbow leans upon your knee,
Your tired knee, that has so much to bear,
A child's dear eyes are looking lovingly
From underneath a thatch of tangled hair.
Perhaps you do not heed the velvet touch
Of warm, moist fingers folding yours so tight;
You do not prize this blessing overmuch,
You almost are too tired to pray to-night.

But it is blessedness! A year ago
I did not see it as I do to-day,
We are so dull and thankless; and too slow
To catch the sunshine till it slips away;
And now it seems surpassing strange to me,
That while I wore the badge of motherhood
I did not kiss more oft and tenderly
The child that brought me only good.

And if some night, when you sit down to rest,
You *miss* this elbow from your tired knee;
This restless, curling head from off your breast,
This lisping tongue that chatters constantly,
If from your own the dimpled hands had slipped
And ne'er would nestle in your palm again;
If the white feet into their grave had tripped,
I could not blame you for your *heart ache then.*

I wonder so that mothers ever fret
At little children clinging to their gown,
Or that the footprints, when the days are wet,
Are ever black enough to make them frown.
If I could find a little muddy boot,
Or cap, or jacket, on my chamber floor;
If I could kiss a rosy, restless foot,
And hear its patter in my home once more;

If I could mend a broken cart to-day,
To morrow make a kite to reach the sky,
There is no woman in God's world could say
She was more blissfully content than I.
But ah, the dainty pillow next my own
Is never rumpled by a shining head.
My singing birdling from its nest is flown,
The little boy I used to kiss is dead

Mrs. Albert Smith.

Story of Enoch.

"And Enoch walked with God, and he was not; for God took him."

This is man's most simple, and yet his most sublime epitaph. How grandly beautiful is the story of this good man's life; how concise and yet how comprehensive, the one sentence in which it is told, "And Enoch walked with God!" In the days when he was first a father, and the men of that age called him young, he was in the presence of God, and for three hundred years afterwards he lived in that Presence as seeing Him who is invisible. When he gazed on the beauties of an Oriental sunrise, painting anew each day the glorious pictures of earth, his heart went up in worship, not to the visible source of all that beauty, but to the Creator of that source; and in the sunlight of earth he saw the light of God. When he bowed beneath the stars of the eastern heavens, he worshiped Him who rules above them so devoutly that he forgot he was kneeling upon His footstool. In all his dealings with his fellow men he was guided by that inner voice of right which God has placed within the breasts of all, and as he advanced in years, his conscience became the ruling *law of his life.* The wicked of that generation would have had him follow in their path, but he answered "My way is not as your way, for I walk with God." His greatest earthly pleasure was to sit in the door of his tent at evening, and watch the innocent gambols of his children; but even in that the pride of the father was lost in the gratitude of the creature. As he gazed on the glorious physical development of his first-born son, and heard men say that surely one like him would live always, he felt a great thrill of pleasure natural to the father's heart, but with that thrill came the thought of how much more powerful is the Being that formed the wondrous frame and breathed into it the breath of life. While he looked into the eyes of the woman he loved, he rejoiced with exceeding great joy that God could make and preserve a creature so fair, and the thought of what she might have been without the curse of sin, transported his spirit into the very bowers of Eden. When the hand of God was on him, as it is at times, upon all men, he wrapped his face in his mantle and sat down in sackcloth and ashes, whispering within himself, "It becometh not dust to murmur;" patiently and in silence he bore the trial appointed to him; and when the wrath of the Almighty had passed by, he lifted his head and worshipped the power that had stricken him, till the rapture of the chastened spirit was almost agony.

He often stood in the shadow of Eden, and felt what man had lost by Adam's sin. When he inhaled the fragrance of his flowers that bloom where there is no death, and heard the voices of the never-erring sons, he bowed his head in the dust, and wept as those who love the Supremely Good alone can weep; but amid those tears came the rainbow of redemption, not bright and glorious as it seems to the Christian of the nineteenth century, but shadowy and dim it shone on the soul of Enoch, born of the light in that promise which God had given to Eve in her fearful hour of trial. And thus he lived, drawing nearer and nearer to the Source of infinite good, until at last, the record says, "he was not," for God in his exceeding love for his purified creature, stretched forth his hand and took him to Himself. He did not go as the thousands that went before, and the millions that have gone after him, through the valley of the shadow of death, into the presence of his Maker. The destroying angel had no power over the man who was pure enough in the flesh to see God, and we must believe that by the will of his Master, in the twinkling of an eye, the *soul* and *body* of Enoch were *immortal* together thousands of years ago.—*Mary Thompson in "Christian Standard."*

A man has no more right to say an uncivil thing than to act one, no more right to say a rude thing to another than to knock him down.—*Johnson.*

DOMESTIC RECIPES.

Rich Mince Meat.—3 lbs. of beef, weighed after it has been boiled; 3 lbs. of suet, chopped fine; 6 lbs. of raisins, weighed after stoning; 3 lbs. of currants; 1½ lbs. of citron; 8 lbs. of apples, pared and cored; 5 lbs. of sugar; salt, mace, cinnamon, cloves, nutmeg to the taste. A little candied orange and lemon peel adds much to the flavor. Chop fine the beef, suet, and apple, also a few of the raisins a little, slice the citron, and mix all well together without cooking; pack tightly in a crock, turn brandy over it, and cover with a thin layer of sugar. It will keep so all winter. When prepared for baking, moisten with cider and water, or lemon juice and water, and bake in a rich paste.

All kinds of Poultry and Meat can be cooked quicker by adding to the water in which they are boiled, a little vinegar or a piece of lemon. By the use of an acid there will be a considerable saving of fuel, as well as shortening of time. Its action is beneficial on old, tough meats, rendering them quite tender and easy of digestion. Tainted meats and fowl will lose their bad taste and odor if cooked in this way, and if not used too freely, no taste of it will be acquired.

Apple Pudding.—One pint of stewed and sifted apples, three eggs, well beaten, whites and yolks separate, sugar enough to make the apple quite sweet, one cup of stoned raisins, rolled in flour, half pint each of milk and cream, or condensed milk, and a little salt and nutmeg.

Hominy Pudding.—Prepare as for batter cakes, add one egg to each pint, some whole cinnamon, sugar to suit the taste, and a few raisins, and bake like rice pudding. A little butter or chopped suet may be added. Serve hot or cold, with or without sauce.

How to Fry Potatoes.—Boil potatoes nicely with the skins on. When cold, peel and slice, chopping the slices slightly. Have ready a pan with a small quantity of butter—about one teaspoonful to six potatoes; put in the potatoes and brown slightly, seasoning with salt and pepper. Just before serving, turn over them half a cup of good cream, stir and send to the table hot.

Sauce.—One cup of sugar and half a cup of butter, rubbed to a cream; the white of one egg, well beaten, a little nutmeg or orange, and when ready to serve, stir in two great spoonfuls of boiling water; if preferred, add half a gill of wine, instead of orange juice.

Corned Beef.—In cooking corned beef, it should be put into boiling water when put on to cook, and when it is done it should remain in the pot until cold. This is the whole secret of having corned beef juicy and full-flavored, instead of the contrary.

Chloride of Lime.—It is said that a dish or pan of chloride of lime set in the cellar will not only assist in removing or destroying impure odors, but that it will also drive away vermin.

Our Correspondents.—We are much indebted for the favors received for this number, and we solicit a continuance of them from our friends, suggesting that their communications be as pithy and practical as possible, in order that we may give the greater variety in our limited space. We add that we should be glad to receive papers intended for the Farmer as early in the month as practicable.

While not wishing to discriminate, we particularly thank our correspondent "*Laborer*" for his contribution on another page, and we hope he will frequently oblige us with articles upon the growing of fruits, &c., as from our knowledge of his ability as a writer and his extended practical experience, we are sure that the contributions of no one in this State to our Horticultural Department would be more acceptable than his. We only regret that in this instance his full name has not been given. Since the above was prepared, "*Laborer*," at our solicitation, has promised to become a regular contributor to the pages of the *Farmer* for the present year.

We avail of this opportunity also to express our appreciation of the series of articles on floriculture and the management of the flower garden and pleasure grounds, with which we have been furnished during the past year by Mr. Brackenridge, who, in another place, it will be seen, begins in his usual happy manner, a new series which will no doubt be perused by all our readers with pleasure and profit.

In our next, among other interesting papers, we expect to give one from an experienced farmer and breeder upon the Guenon system of determining the milking properties of cattle. A gentleman thoroughly acquainted with the facts, and himself a careful and extensive breeder, will review the communication of Mr. Rice in our December number upon the Jersey Herd Register. The paper on Furze or Gorse, a plant recommended by Mr. McCue as peculiarly adapted as a forage crop for the South, will also be given; and we hope to receive from a distinguished agriculturist of Virginia a promised paper on the Mountain Meadow Oat. These, with other good things, will make up an issue of such variety and value as, we think, will please the most critical.

☞Now is the time to subscribe for the American Farmer.

Baltimore Markets, Dec. 20.

Breadstuffs—Flour.—Howard St. Super, $5a6.50; do. common to fair Extra, $6.75a7.25; do. good to choice do., $7.50a8; do. Family, $8.25a10; Ohio and Indiana Super, $5a6.37; do. common to fair Extra, $6.65a7.25; do. good to choice do., $7.50a7 87; do. Family, $8a10; City Mills Super, $5 25a6 25; do. low to medium Extra, $6.75a8; do Rio brands do., $9 50; City fancy brands, $11.50a12. Fine Flour, $4a5. Rye Flour, $5a7 75. Corn Meal, $3a3.25.

Wheat.—Market active, with light receipts, and prices advancing for prime and good grades winter wheat; Spring wheat dull. We quote Western red, good to prime, 175a180 cts.; amber, 185 cts; Southern white, good to choice, 185a215 cts.; and fair red to choice amber, 175a215 cts.

Corn.—Market active; prices generally firm. Sales of Southern white at from 58 to 65 cts. for very green to prime dry; do. yellow, 60a63 cts.; old white 65a66 cts.; Western mixed, 58a62 cts.

Oats.—Market strong. Sales of Southern at 50a55 cts.; white Western, 50a53 cts.; black do., 46 cts.; mixed do., 46a49 cts.

Rye.—Quiet. Receipts light. Sales at 75a83 cts.; prime 85 cts.

Buckwheat.—In demand. N. Y., $4.25a4.75; Phila. $3.56a3 75 per 100 lbs.

Broom Corn.—Sales of choice at 7a7½ cts.: common 4a6¼ cts.

Cotton.—Market irregular. We quote good ordinary, 18¼a18⅜ cts.; low middling, 18⅝a18¾ cts.; middling, 19⅛ cts.

Hay and Straw.—Western Timothy, $35; Penna., $36. Rye straw, $30.

Live Stock—Beef Cattle.—Market dull and prices lower. We quote best on sale 6a7¼ cts.; generally rated first-class, 4¼a6 cts; fair quality, 3½a4¼ cts.; thin steers, oxen and cows, 2a3½ cts. *Hogs.*—Receipts small and prices better. We quote them at 5⅝a6½ cts. net. *Sheep.*—Market well supplied. Fair to good sheep, 4a5 cts.; good to extra, 5a6 cts., gross. Stock sheep, $2a3 per head.

Mill Feed.—City Mills Brownstuffs, 24a25 cts; middlings, light, 28a30 cts.; heavy, 45a50 cts.

Molasses.—New Orleans, 75a80 cts; no foreign in market. *Syrups.*—Calvert, 55a60 cts.; Maryland, 48a55 cts.; Canton Sugar-House, 19 cts. in hhds. and 22 cts. in bbls.

Onions.—In good demand. Red, $3, and white $3.25 per bbl.

Potatoes.—Maine "Jacksons," from vessel, $1.10a 1.15; Peach-blows 90 cts, and Early Rose $1.10 per bushel. Sweet, $2 50a3 per bbl.

Provisions.—Bulk Shoulders, 4¼ cts: Rib Sides, 5½ cts.; clear rib Sides, 6 cts. Bacon, Shoulders 6 cts.; Rib Sides, 8¾ cts; clear rib Sides, 9 cts. Hams, 14a15 cts. Mess Pork, $13.50. Lard, 8 cts.

Rice.—Carolina, 8¼ cts.; Rangoon, 3½ cts, gold, in bond.

Salt.—Ground Alum, $1.70a1 80, and Fine, $2.75 per sack; Turk's Island, 40 cts. per bushel.

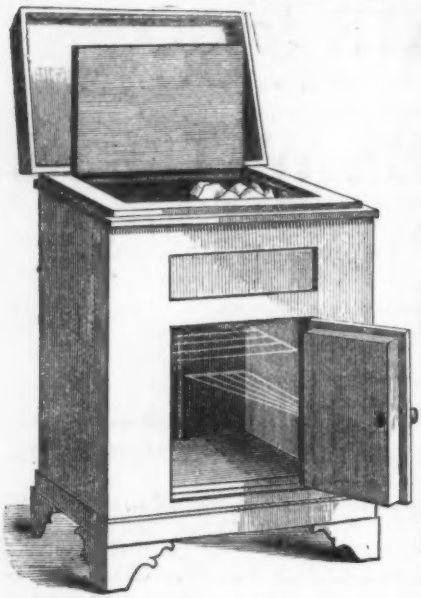
Seeds.—Clover, $6.25a6.50; Orchard Grass, $2.50, Kentucky Blue Grass, $2.75. Flaxseed, $1.90a2.

Tobacco.—Market firm and receipts light. No change of importance to note in prices since last report

Whiskey.—Western, 98a100 cents.

Wool.—Steady and quiet. Unwashed, burry, 25a30 cts; good unwashed, 30a40 cts.; good tub washed, 55a65 cts; inferior do, 50a55 cts.; common fleece, washed, 50a52 cts.; medium to fair, 54a58 cts.; pulled, 45a55 cts.

VEGETABLE AND FLOWER SEEDS.—Mr. J. J. H. Gregory, of Marblehead, Mass., is well known as one of the few leading seed growers in this country. He was the original introducer of the Hubbard squash and many other of our new and valuable vegetables. All seeds from him are warranted fresh and reliable. His advertisements will be found in this number, and we invite attention to them. His illustrated catalogue for 1873 (now ready) will be sent *free* to all applicants.



Owners and Manufacturers

OF THE

New Iceland Refrigerator.

HOUSE FURNISHING GOODS

FORWARDED AND PACKED

WITH

GREAT CARE

BY

SAMUEL CHILD & CO.,

20 N. CHARLES ST.

Importers of CHINA, GLASS, TABLE CUTLERY, FAMILY HARDWARE, PLATED GOODS, and Dealers in TIN, WOODEN and JAPANNED WARE and KITCHEN FURNITURE of every character.

WATER COOLERS of our own make. ICE-CREAM FREEZERS of the most approved kinds. PATENT ICE PITCHERS, all qualities, and each warranted to be as represented.

New and Beautiful Patterns of

ENGLISH, FRENCH AND AMERICAN

TABLE GLASSWARE.

WHISKEY, BRANDY AND WINE DECANTERS,

SINGLY AND IN SETTS.

BOWLS, DISHES, CELERY STANDS, &c.

Our arrangements made in person with the leading manufacturers in Europe and this country, and having resident agents in France and England, give us every advantage in obtaining our supplies; manufacturing the common class of goods, such as

TIN AND JAPANNED WARE;

Buying entirely for cash; with a thorough knowledge of the business in all its details; purchasers may rest assured that we can and will supply their wants as favorably and upon as good terms as any house in New York or elsewhere.

We respectfully solicit a visit and an examination of goods and prices. ap-1y

BURNS & SLOAN,

No. 132 LIGHT STREET WHARF,

BALTIMORE, MD.

BUILDING LUMBER, SHINGLES,

ASH, OAK and WALNUT.

LIME, BRICKS, SASH & MILL WORK.

oct-12t

S. SANDS' FARMERS & PLANTERS' AGENCY.

With the recommencement of our connection with our old journals, we determined also to renew our **AGENCY** for the supply of everything required by Farmers and Planters residing at a distance from Baltimore, who may not have Commission Merchants or Factors in this city.

Our long experience, and, we flatter ourselves, our judgment and discretion, in this business, will enable us to render good service to those who may wish to obtain our aid.

We will purchase and have carefully shipped, by whatever mode of transportation may be designated:

FERTILIZERS of every description sold in this market—and there is, probably, no other city in the Union which offers better facilities for this purpose. We will buy, and deliver from the Peruvian Agent's Warehouses, whenever the order is sufficiently large to warrant it,

PERUVIAN GUANO,

Of the Chincha Island and Guanape brands; the various **PHOSPHATIC GUANOS** imported into this port; **BONE DUST** from the best manufacturers of this vicinity, or the cheaper kinds from a distance, as may be ordered by the purchaser;

Land Plaster, Oil Vitriol, and all Chemicals Required

In the manufacture of **HOME MANURES** or **SUPERPHOSPHATES**, from the most reliable factories.

FRUIT and **ORNAMENTAL TREES, SHRUBBERY**, Field, Garden and Flower **SEEDS.**

All kinds of **AGRICULTURAL IMPLEMENTS** and **MACHINERY** at manufacturers' prices. Likewise,

Cattle, Horses, Sheep, Pigs, Poultry, &c.,

Of the improved breeds. In this vicinity, in some particular kinds of stock, a better selection can be made than elsewhere, and special attention will be given to buying and forwarding such animals as may be ordered.

LAND SALES.

As a great demand is expected ere long to be made for Landed Estates in the Middle and Southern States, we have opened a correspondence with men of established reputation engaged in the Real Estate Agency, in this State, Virginia and the Carolinas, and copies of pamphlets containing a list of the Farms, location, price, and other particulars, will be kept for the inspection of those wishing to purchase; and we will, with great pleasure, render every facility in furthering the objects of both buyer and seller. To those wishing to advertise in our journal, we will give our aid without any fee further than the cost of the advertisement.

We will at all times be happy to receive, at the sign of the "Golden Plow," our old farmer friends, on visiting the city, whether or not they may have any special business, and will be prepared, with cheerfulness, to give them any aid or advice in our power, without any consideration therefor except the consciousness of being able to render them a service.

OUR TERMS.

As we expect to carry on this portion of our business strictly as an **AGENCY**, we must in all cases require the **CASH** (or its equivalent) in hand to make purchases. The small commissions we may require—and these will, in most cases, be paid by manufacturers, breeders or dealers—will not justify our transacting the business on any other terms. Address

SAML. SANDS & SON,

No. 9 North st., near Baltimore st., Baltimore, Md.,

SIGN OF THE GOLDEN PLOW.